

TSD File Inventory Index

Date: January 2, 2008
 Initial: CMB

Facility Name:		<i>Chicago Recovery Systems, Inc.</i>
Facility Identification Number:		<i>OHD 054 001810</i>
A.1 General Correspondence	B.2 Permit Docket (B.1.2)	
A.2 Part A / Interim Status	.1 Correspondence	
.1 Correspondence	.2 All Other Permitting Documents (Not Part of the ARA)	
.2 Notification and Acknowledgment	C.1 Compliance - (Inspection Reports)	
.3 Part A Application and Amendments	C.2 Compliance/Enforcement	
.4 Financial Insurance (Sudden, Non Sudden)	.1 Land Disposal Restriction Notifications	
.5 Change Under Interim Status Requests	.2 Import/Export Notifications	
.6 Annual and Biennial Reports	C.3 FOIA Exemptions - Non-Releasable Documents <i>C.S</i>	
A.3 Groundwater Monitoring	D.1 Corrective Action/Facility Assessment	
.1 Correspondence	.1 RFA Correspondence	
.2 Reports	.2 Background Reports, Supporting Docs and Studies	
A.4 Closure/Post Closure	.3 State Prelim. Investigation Memos	
.1 Correspondence	.4 RFA Reports	
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A.5 Ambient Air Monitoring	.1 RFI Correspondence	
.1 Correspondence	.2 RFI Workplan	
.2 Reports	.3 RFI Program Reports and Oversight	
B.1 Administrative Record	.4 RFI Draft /Final Report	
	5. RFI QAPP	

.6 RFI QAPP Correspondence		.8 Progress Reports	
.7 Lab Data, Soil-Sampling/Groundwater		D.5 Corrective Action/Enforcement	
.8 RFI Progress Reports		.1 Administrative Record 3008(h) Order	
.9 Interim Measures Correspondence		.2 Other Non-AR Documents	
.10 Interim Measures Workplan and Reports		D.6 Environmental Indicator Determinations	
D.3 Corrective Action/Remediation Study		.1 Forms/Checklists	
.1 CMS Correspondence		E. Boilers and Industrial Furnaces (BIF)	
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.3 CMS Workplan <i>D.3.3</i>	1	.2 Reports	
.4 CMS Draft/Final Report		F Imagery/Special Studies (Videos, photos, disks, maps, blueprints, drawings, and other special materials.)	
.5 Stabilization		G.1 Risk Assessment	
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.7 Lab Data, Soil-Sampling/Groundwater		.2 Compliance and Enforcement	
D.4 Corrective Action Remediation Implementation		.3 Enforcement Confidential	
.1 CMI Correspondence		.4 Ecological - Administrative Record	
.2 CMI Workplan		.5 Permitting	
.3 CMI Program Reports and Oversight		.6 Corrective Action Remediation Study	
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.5 CMI QAPP		.8 Endangered Species Act	
.6 CMI QAPP Correspondence		.9 Environmental Justice	
1			

Note: Transmittal Letter to Be Included with Reports.

Comments:

Site Team Evaluation Prioritization (STEP) Report

FOR

Chemical Recovery Systems

**Location City, County: Elyria, Lorain
U.S. EPA ID: OHD 057 001 810**

Prepared by: Lawrence J. Antonelli

**OHIO ENVIRONMENTAL PROTECTION AGENCY
Division of Emergency & Remedial Response**

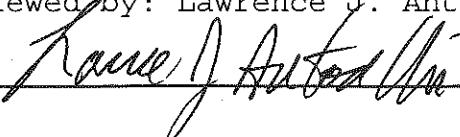
Date: September 29, 1997

Site Team Evaluation Prioritization (STEP) Final Report

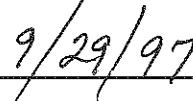
Site Name: Chemical Recovery Systems
City, State: Elyria, Ohio

U.S. EPA ID: OHD 057 001 810
Date: September 29, 1997

Prepared &
Reviewed by: Lawrence J. Antonelli

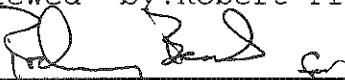


Date:



Site Coordinator, District Office
Division of Emergency & Remedial Response
Ohio Environmental Protection Agency

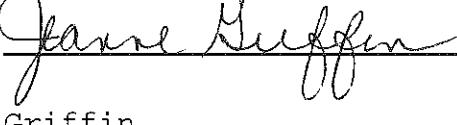
Prepared &
Reviewed by: Robert Princic



Date:



Site Investigator, Site Investigation Field Unit-Central
Office Division of Emergency & Remedial Response Ohio
Environmental Protection Agency

Approved by: 

Date: 

Jeanne Griffin
Early Action Project Manager
Division of Superfund
U.S. Environmental Protection Agency

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1.0 EXECUTIVE SUMMARY

Ohio Environmental Protection Agency (Ohio EPA) personnel conducted a Site Team Evaluation Prioritization (STEP) investigation at the former Chemical Recovery Systems facility in Lorain County, Ohio on August 14, 1996. This STEP was performed under the United States Environmental Protection Agency (U.S. EPA) site investigation protocol. The purpose of this STEP was to determine if the disposal practices at the Chemical Recovery Systems site released contaminants into the environment, specifically to soils, ground water, and surface waters.

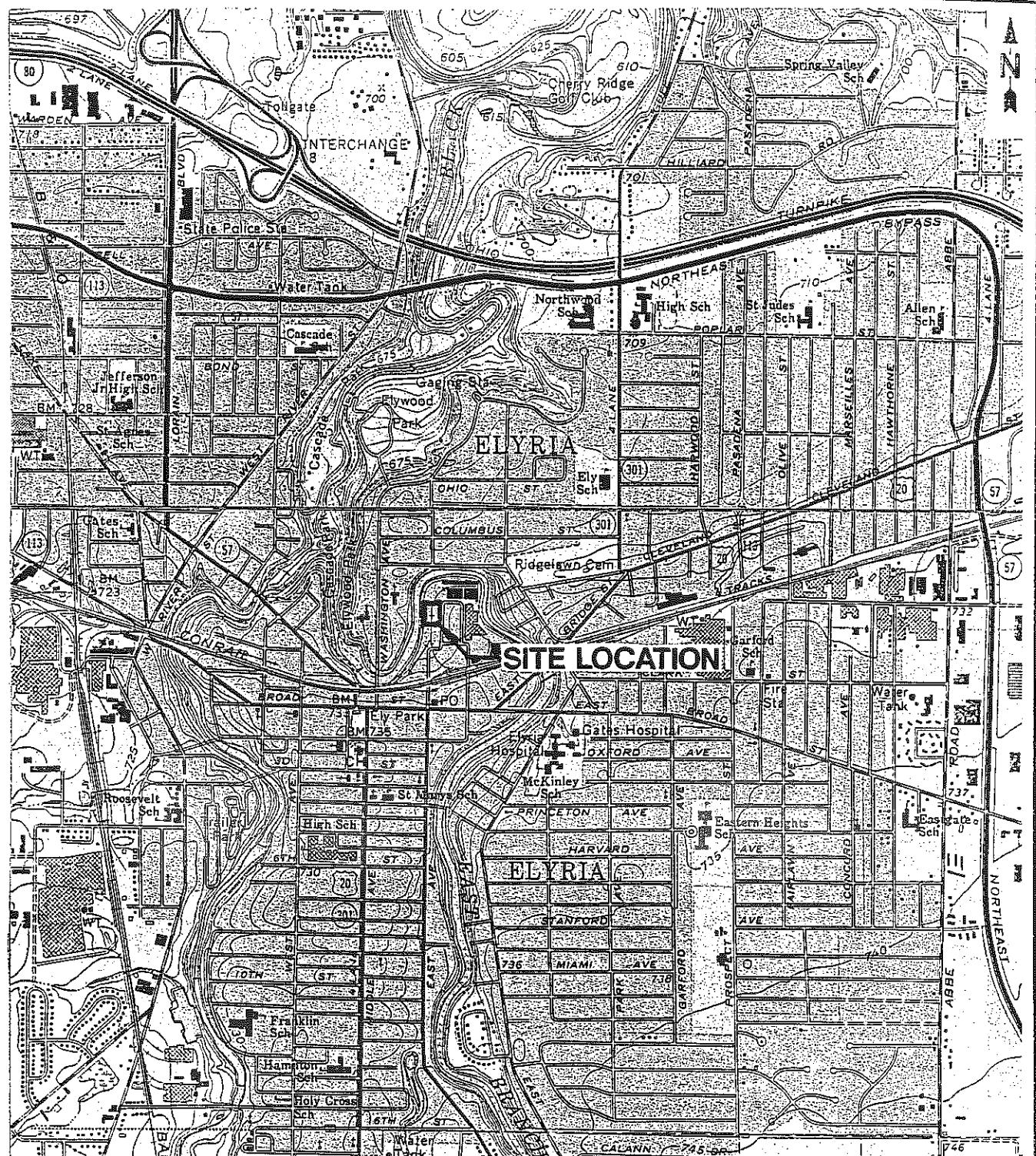
2.0 INTRODUCTION

The Ohio Environmental Protection Agency (Ohio EPA) Division of Emergency and Remedial Response (DERR) formed a cooperative agreement with the U.S. EPA Region V to conduct a Site Team Evaluation Prioritization (STEP) of the Chemical Recovery Systems site, U.S. EPA ID# OHD 057 001 810 (latitude N 41 22' 14.45", longitude W 82 06' 14.8"). This report was prepared to address potential effects the site has to the surrounding areas.

3.0 SITE BACKGROUND

3.1 Site Description:

The Chemical Recovery Systems (CRS) site is located at 142 Locust Street in Elyria, Lorain County, Ohio (latitude 41 degrees, 22' 14.45" N and longitude 82 degrees, 06' 14.8" W) (USGS 1979a). The site location is shown on Figure 1. The site is bordered to the west by the East Branch of the Black River, to the north by the Harshaw Chemical Company, to the east by the Harshaw Chemical Company and Locust Street, and to the south by the M&M Aluminum Siding Company. The CRS site is located in a predominantly industrial and commercial setting near the central business district of Elyria, Ohio (PRC 1995a). The CRS site consists of a 4-acre site that is currently leased to M&M Aluminum Siding. M&M Aluminum Siding uses the site to store scrap aluminum and junked cars. Currently, two buildings are located on the CRS site: (1) a former warehouse and office building and, (2) a Rodney Hunt Still building where the former Rodney Hunt Still was located. Both of these buildings are located in the southeast corner of the site.



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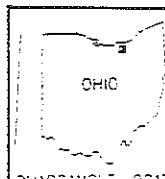
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1 MII

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

SCALE: 1" = 2,000'



CHEMICAL RECOVERY SYSTEMS, INC.
EL YRIA, OHIO

FIGURE 1
SITE LOCATION

SOURCE: MODIFIED FROM USGS,
GRAFTON, OHIO, QUADRANGLE, 1979c; AND
AVON, OHIO, QUADRANGLE, 1979d

QUADRANGLE LOCATION

FRC ENVIRONMENTAL MANAGEMENT, INC.

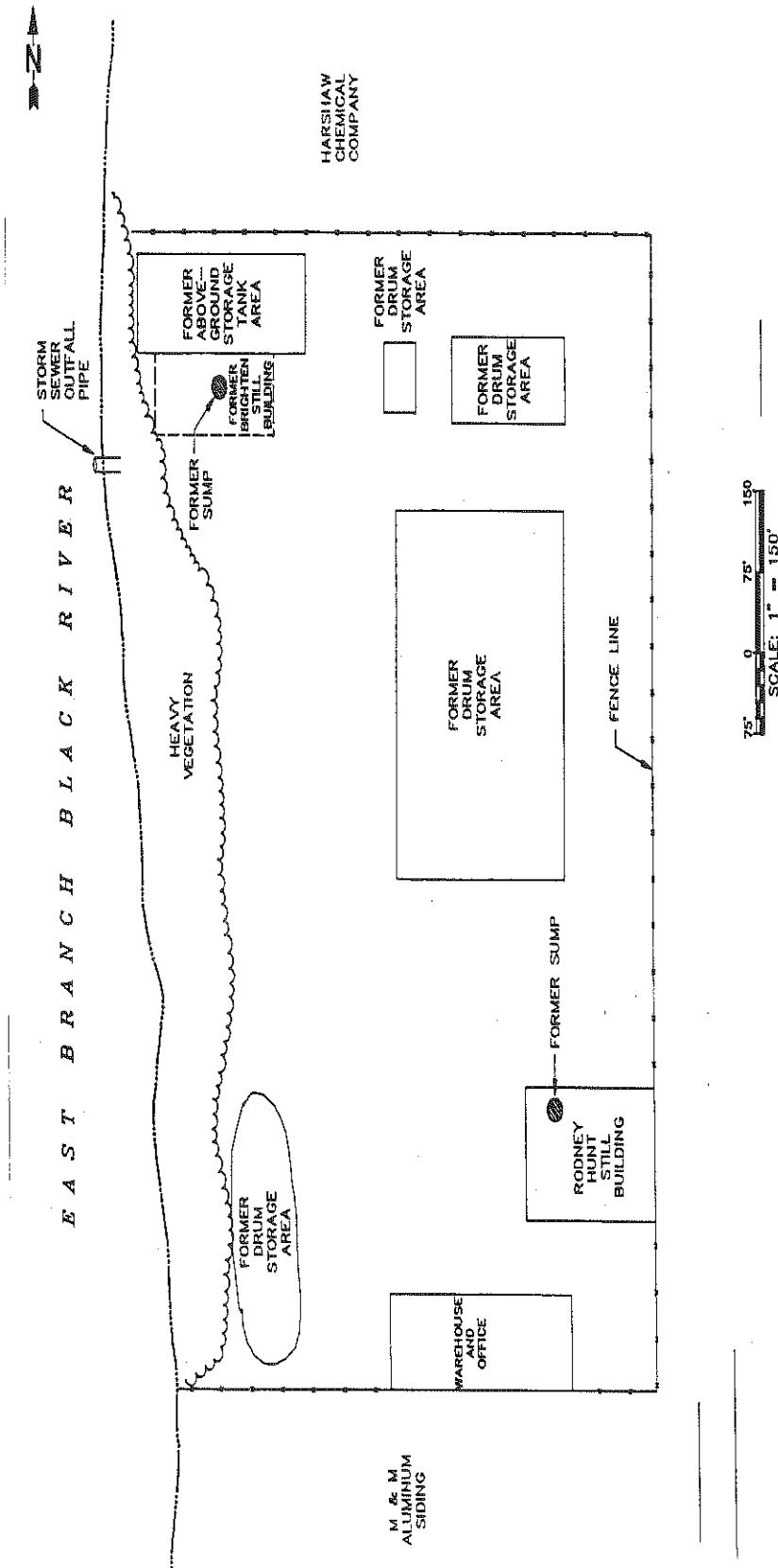


Figure 2. Generalized site features map (after PRC, 1995).

A foundation from the former Brighten Still building is located in the northwest corner of the site. The site is fenced on all sides except the side bordering the East Branch of the Black River. Figure 2 depicts a generalized site features map.

3.2 Site History:

The CRS site is currently owned by Mrs. Russell Obitts. Information about prior ownership is unavailable. Mr. Obitts owned and operated the Obitts Chemical Company at the site prior to 1974 (E&E, 1986). Obitts Chemical Company's operations and dates of operations are unknown. Mr. Obitts leased the property to CRS in 1974. As part of it's operations, CRS received spent organic solvents from various industries, distilled these solvents on-site, and sold the reclaimed solvents back to industry. CRS operated the site from 1974 until 1980 or 1981 (OEPA, 1980b). CRS went bankrupt prior to 1983 (E&E, 1983a).

Spent solvents that were transported to the CRS site include the following: acetone, hexane, isopropyl alcohol, methylene chloride, methyl ethyl ketone (MEK), tetrachloroethene (PCE), toluene, trichloroethene (TCE), and xylene (EPA, undated). During a visual inspection of the CRS site conducted by EPA on February 5, 1980, a employee of CRS indicated that solvents reclaimed by CRS included MEK, methyl - i - butyl ketone, toluene, xylene, aromatic hydrocarbons, aliphatic hydrocarbons, paint solvents, esters, and chlorinated hydrocarbons including 1,1,1 - trichloroethane (TCA), TCE, and PCE (EPA, 1980c). Solvent samples collected by EPA on November 26, 1979 detected PCE, ethyl benzene, and naphthalene (EPA, 1980a). A solvent sample collected on February 5, 1980 contained toluene, ethyl benzene, xylene, and naphthalene (EPA, 1980d).

Spent solvents from various industries were transported to the CRS site in either 55 - gallon drums or tanker trucks. CRS used its own trucks to haul spent solvents to the site. Spent solvents from the tanker trucks were transferred into above ground storage tanks (AST) located in the northwest corner of the site (EPA, undated). The CRS site had nine AST's having a total capacity of 53,500 gallons which were improperly grounded, vented, and constructed as well as violated State of Ohio fire codes (EPA, undated; CEHD 1979c). The 55 - gallon drums were stored in four main areas at the site, three of which were located in the northern portion of

the site. The fourth drum storage area was located in the southwestern corner of the site (EPA, 1983a). During numerous site inspections conducted by EPA, Ohio EPA, and the city of Elyria Health Department (CEHD), 4,000 to 9,000 55 - gallon drums were observed on site, some of which were unmarked, deteriorating, and leaking their contents onto the ground (USDC, 1980; OEPA, 1980a; and EPA 1980b, 1980c, and 1980e).

CRS operated two distillation units: (1) a Rodney Hunt still that was housed in the southeastern corner of the site and (2) a Brighten still that was housed in the northwest corner of the site (EPA 1980c). CRS processed approximately 250,000 gallons of spent chemicals per month (EPA, undated). The distillation operation generated an average of 10,000 gallons of waste sludge per week (EPA 1980e). The majority of the waste was disposed of off site at Robert Ross & Sons, Inc., in Grafton, Ohio, and the Carter Oil Company in Michigan (USDC 1980; E&E 1982).

Two sumps formerly located inside the still buildings near the two stills were used to dispose of wastes (E&E 1982). These sumps were poorly constructed and may be a source of contamination; however, very little information is available regarding the construction of the sumps or where waste from the sumps was ultimately disposed of (EPA No Date). A sample of water was collected from one of the sumps by EPA on November 26, 1979. This sample contained polychlorinated biphenyls (PCBs) and ethyl benzene (EPA 1980a).

A release from the CRS site to the East Branch of the Black River has occurred based on direct observation and analytical results. On March 29, 1979, after a heavy rain storm, a dike surrounding one of the buildings at the CRS site filled with water. To correct the problem, a CRS employee dug a hole in the dike and allowed the liquid to run out of the dike area into the East Branch of the Black River (CEHD 1979b; USDC 1980). As a result of the release, an oily slick was observed on the East Branch of the Black River. Samples of the sludge inside the dike area contained xylene and toluene (CEHD 1979d).

A leachate stream was observed by EPA following from the CRS site to the East Branch of the Black River on April 24, 1980. Samples of the leachate and surface water from the river contained PCBs (USDC 1980). On August 31, 1978, members of CEHD and the State Fire Marshal's Office noted up to six leachate seeps flowing into

the East Branch of the Black River. CRS was in full production at the time of this inspection (USDC 1980; CEHD 1978).

A storm sewer pipe beneath the site discharges to the East Branch of the Black River. A City of Elyria engineer reviewed the storm sewer pipe's condition and concluded that fill operations at the CRS site had damaged the sewer pipe (Elyria 1979). Contaminants may, therefore, have migrated along the pipe and into the East Branch of the Black River from the CRS site (E&E 1982).

Because the site posed a danger to the local population and environment, EPA initiated local action under the Resource Recovery and Conservation Act (RCRA). On October 7, 1980, a civil action on behalf of EPA in the U.S. District Court, Northern District of Ohio, was brought against CRS to abate an imminent and substantial endangerment of public health and the environment from the CRS site (USDC 1980). A consent decree was issued on July 12, 1983, requiring CRS to complete the following actions (USDC 1983):

- * Excavate all visibly contaminated soil identified during a joint visual inspection conducted by representatives of EPA and CRS.
- * Excavate the perimeter of the Brighten Still building in the northwest corner of the site to a depth of 1 foot and a distance of 2 feet beyond the perimeter of the foundation.
- * Dispose of all removed soil at an EPA-approved, waste disposal site.
- * Backfill the excavated areas with clean, clay-containing fill.
- * Gently grade the site towards the East Branch of the Black River.

Prior to a hydrogeological and extent of contamination study performed by the EPA Field Investigation Team (FIT) between August 4 and September 16, 1981, CRS had removed all tanks, drums, and other spent solvent containers from the site; ceased the receipt, processing, and storage of spent solvents on site; and removed all distillation units from the site (E&E 1982). At the time of the consent decree, CRS had also secured the CRS site with a fence; filled in the sump under the Brighten Still building and sealed the

sump under the Rodney Hunt Still building with concrete; and leveled on-site dikes and rough graded areas (USDC 1983). CRS removed contaminated soils and disposed of them in an EPA-approved, waste disposal site by September 15, 1983 (EPA 1983b). After conducting a site inspection on November 7, 1983, EPA concluded that CRS was in compliance with the consent decree (EPA 1983b).

3.3 Previous Site Work

EPA, CEHD, and Ohio EPA have conducted numerous PA, inspections and investigations at the CRS site (CEHD 1979a and 1979b; E&E 1982, 1983, and 1986; Ohio EPA 1980a; WPA 1980a, 1980b, 1980c, 1980e, 1980f, 1983a, and 1983b). During these investigations samples of soil, groundwater, sediment and surface water were collected. Analytical results indicate that hazardous constituents have been released to the environment from the site.

The most extensive investigation of the site occurred in August and September 1981, when E&E, the EPA FIT contractor, conducted a hydrogeological and extent-of-contamination study at the CRS site. During the study, E&E collected groundwater, soil, sediment, and surface water samples. E&E installed four groundwater monitoring wells on site and sampled these wells in September 1981. Monitoring well W-1 was installed near the Brighten Still building. Monitoring well W-2 was installed near a former drum storage area. Monitoring wells W-3 and W-4 were installed on the far eastern edge of the site and were used as background monitoring wells. The following hazardous substances were detected at elevated concentrations: vinyl chloride; 1,1-dichloroethene (DCE); trans 1, 2-DCE; benzene; toluene; ethyl benzene; aluminum; chromium; barium; cadmium; copper; lead; nickel; and arsenic (E&E 1982). During a site reconnaissance conducted in June 1996, OEPA personnel located monitoring wells W-1 and W-2. The well casing remains of W-3 and W-4 were also found near their original location. These wells were apparently destroyed when the site was graded.

E&E also installed five soil borings during the study. Soil borings B-5 and B-6 were located near former drum storage areas. Soil boring B-7 was installed near the Brighten Still building. Soil boring D-8 was installed near the Rodney Hunt Still building, and soil boring B-9 was installed on the eastern side of the site and was used as a background sampling location. Samples were collected from the ground surface to up to 16.5 feet below ground

surface (bgs). The following hazardous substances were detected at elevated concentrations in soil collected from the borings: methylene chloride; 1,1,1-TCA; trans-1,2-DCE; TCE; PCE; benzene; toluene; ethyl benzene; PCBs; naphthalene; fluoranthane; 3,4-benzofluoranthene; benzo(k)fluoranthene; anthracene; benzo(g,h,i)perylene; phenanthrene; pyrene; benzo(a)anthracene; benzo(a)pyrene; chrysene; aluminum; boron; chromium; cobalt; copper; nickel; zinc; arsenic; cadmium; lead; antimony; mercury; and tin (E&E 1982).

E&E collected four surface water and sediment samples. Surface water and sediment samples SW-1/SS-1 and SW-s/SS-2 were collected upstream of the CRS site and were used as background samples. Surface water and sediment sample SW-3/SS-3 was collected near the storm sewer outfall at the CRS site. Surface water and sediment sample SW4/SS4 was collected downstream of the CRS site. The following hazardous substances were detected at elevated concentrations in the surface water samples: methylene chloride; chloroethane; 1,1-dichloroethane (DCA); vinyl chloride; TCE; PCE; benzene; toluene; 1,1,1-TCA; 1,2-dichlorobenzene; 1,3-dichlorobenzene; 1,4-dichlorobenzene; cadmium; nickel; manganese; selenium; and thallium. The following hazardous substances were detected at elevated concentrations in sediment samples: methylene chloride; chloroethane; 1,1-DCE; 1,1,1-TCA; vinyl chloride; 1,1-DCA; trans-1,2-DCE; TCE; PCE; benzene; toluene; ethyl benzene; phenol; 1,2-dichlorobenzene; PCBs; bis(2-ethylhexyl)phthalate; naphthalene; dibenzo(a,h)anthracene; chromium; cadmium; copper; nickel; and zinc.

The EPA FIT also conducted a site inspection on February 5, 1986, during which it collected three surface water samples (E&E 1986). Surface water sample S3 was collected upstream of the CRS site. Surface water sample S2 was collected near the storm sewer outfall on the CRS site. Surface water sample S1 was collected near the southern edge of the CRS site. None of the analytes were present at an elevated concentration in the samples.

3.4 Site Geology & Hydrology

The CRS site is underlain by fill materials composed of sandy clay mixed with bricks and cinder materials (E&E, 1982). The fill thickens towards the East Branch of the Black River. The fill thickness ranges from 4 feet near Locust Street to 18 feet near the

East Branch of the Black River (E&E, 1982). Thin lenses of sandy clay, sand, and silty sand are located beneath the fill material. These lenses have a average thickness of 4 feet (E&E, 1982). Unconsolidated materials at the CRS site are underlain by the Mississippian age Berea Sandstone. Bedrock is located at approximately 4 feet below ground surface (bgs) on the eastern side of the site, and bedrock occurs at approximately 20 feet bgs on the western side of the site near the East Branch of the Black River (Herron, 1979). The Berea Sandstone below the site is a arenitic sandstone that is a source of potable water, oil, and natural gas (NOGS, 1970).

Ground water beneath the CRS site is present at approximately 10 feet bgs and flows toward the East Branch of the Black River (E&E, 1982). Drinking water wells within 4 miles of the CRS site are screened in the Berea Sandstone (E&E, 1982).

Approximately 1,295 people use private wells that draw water from within a 4 - mile radius of the site (Frost, 1995). The nearest drinking water well to the site is between 0.5 to 1 mile from the site (Frost, 1995). Drinking water wells in the area are

screened in sandstone which is hydraulically connected to the upper unconsolidated units beneath the CRS site (E&E, 1982). No ground water-based municipal water supply systems are located within a 4 - mile radius of the site (PRC 1).

Private ground water well usage data indicate that the following populations use private wells within the specified distance from the site: 3 people between 0.5 and 1 mile; 112 people between 1 and 2 miles; 518 people between 2 and 3 miles; and 662 people between 3 and 4 miles (Frost, 1995).

4.0 SAMPLING LOCATIONS & DISCUSSION OF RESULTS

Groundwater, surface water, sediment, and soil samples, were collected during the Site Team Evaluation Prioritization (STEP) investigation performed August 14, 1996. Samples were analyzed by U.S. EPA Contract Laboratory Program laboratories. Analyses included the following parameters: Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs), pesticides, PCBs, and TAL metals. Figure 3 shows site sampling locations.

Complete analytical results of this investigation are contained in Appendix A. Data were reviewed by U.S. EPA Region V personnel for compliance with the Contract Laboratory Program, and validated by Region V Central Regional Laboratory staff.

Standard Quality Assurance and Quality Control (QA/QC) procedures for Site Investigation (SI) field activities were followed during the investigation. These procedures, including sample collection, packaging and shipping, and equipment decontamination, are documented in the Quality Assurance Project Plan (QAPP) for Region V Superfund Site Inspection Activities for Ohio EPA and Ohio EPA Field Standard Operating Procedures.

4.1 Groundwater

Previous investigations and reports indicated that 4 monitoring wells existed for sampling on the CRS site. However, during STEP field activities only 2 of these wells could be located. Three actual ground water samples were taken from the two wells located. These wells were identified as MW1 and MW2. These samples are designated as EAQZ/MEACZ4 (MW 1 before purge), EAQZ/MEACZ1 (MW 1 after purge), and EAQZ/MEACZ0 (MW 2). Both of these wells are considered to be hydraulically down gradient, and a background well was not available for comparison. Monitoring Well 1 (MW1) had a static water level of 17.7', and MW2 had a static water level of 18.15'.

4.2 Surface Water

A total of 4 surface water samples were collected from the East Branch of the Black River. They are designated as EASK/MEABX0 (downstream), EASK/MEABX1 (adjacent), EASK/MEABX3 (background), and EASK/MEABX4 (outfall).

4.3 Sediment

A total of three sediment samples were collected during field work plus a replicate. The samples are designated as EAQR/MEACS1 (downstream), EAQR/MEACS2 (adjacent), EAQR/MEACS3 (background), and EAQR/MEACS5 (replicate of 2). Sample locations were picked based on a evaluation of historical records, potential source areas, and site reconnaissance. The background sample was chosen in the field.

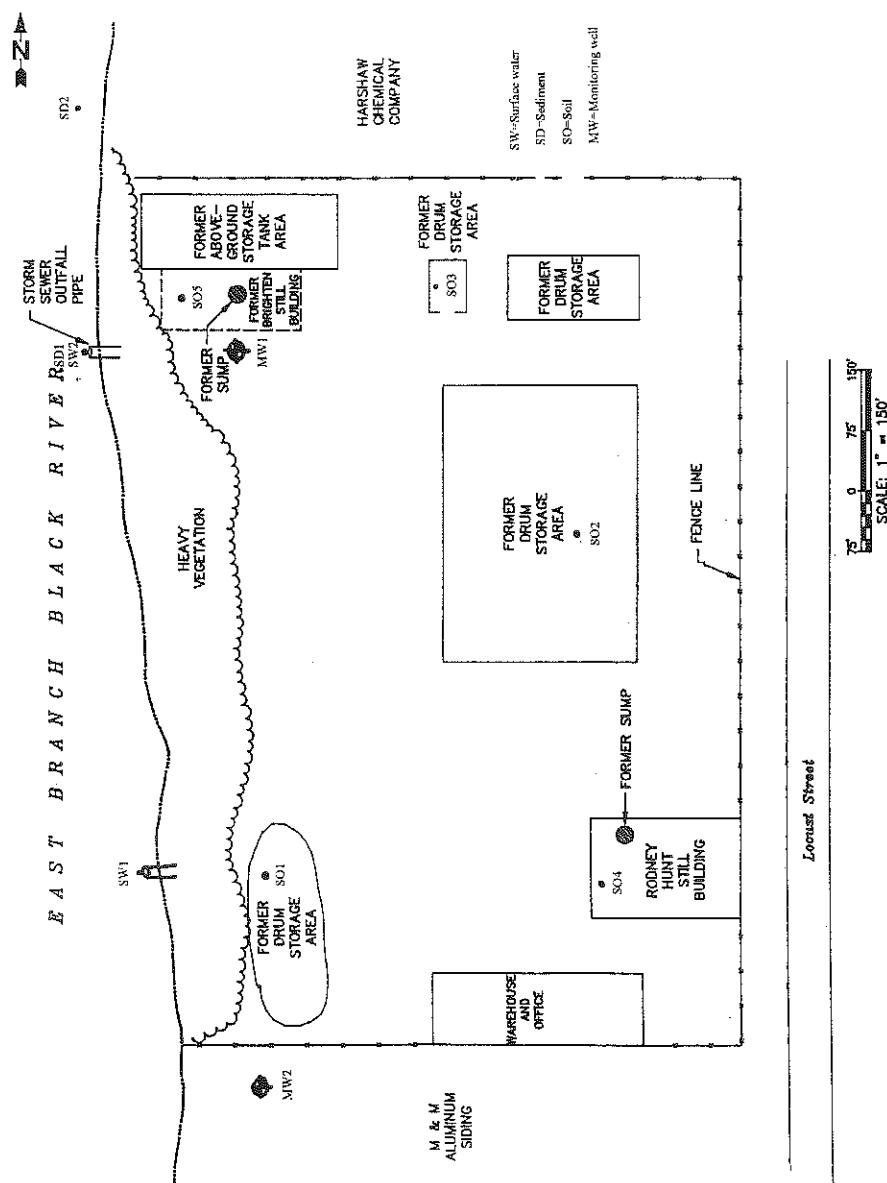


Figure 3. Site sampling locations.

4.4 Soil

A total of four (4) samples and a replicate was taken from site soils at the site. Soil samples were collected to determine the potential for direct contact exposure to contaminants, and to establish potential for migration and leaching. All sample locations and one replicate sample were collected based on the evaluation of historical records, and physical appearance of potential source areas.

Soil samples were collected from the following locations and designated as EASN/MEAGH0 (SW drum area), EASN/MEAGH1 (W. drum area), EASN/MEAGH2 (outfall area), EASN/MEAGH3 (replicate of W. drum area), and EASN/MEAGH4 (Brighton still former location). All samples were collected from depths of 3 to 6 inches.

5.0 DISCUSSION OF ANALYTICAL RESULTS

U.S. EPA Contract Laboratory Program (CLP) laboratories were utilized for all sample analysis. Samples were analyzed for volatile organic compounds (VOC's), extractable semi-volatile organic compounds (BNA), pesticides, polychlorinated biphenyls (PCB's), metals, and cyanide. All substances analyzed for consist of the Target Analyte List (TAL), and the Target Compound List (TCL). The data was reviewed by U.S. EPA personnel for compliance with the CLP, and validated by Region 5, Central Regional Laboratory staff.

5.1 Soil Samples

Several VOC's, SVOC's, and TAL metals were detected in all soil samples. Low levels of pesticides/PCB's were detected in soils and results are described below. Due to the large number of detections of SVOC's and TAL metals, only the highest three concentrations for those compounds are listed in this section. Please refer to the data sheets for complete results. During sampling there was no area on-site which would accurately define background conditions, therefor no background soil samples were taken.

Volatile organic contamination was detected in all samples at relatively low levels. The most notable detections were 1400 mg/kg

of 1,2-dichloroethene, and 500 mg/kg of tetrachloroethene in EASN/MEAGH0. This sample also detected 1,1,1-trichloroethane at 14 mg/kg, and acetone (a common lab contaminant) at 66 mg/kg.

Sample EASN/MEAGH1 and the associated replicate, contained 1,1,1-trichloroethane at 45 mg/kg and 94 mg/kg respectively. These samples also detected trichloroethene at 130 mg/kg and 540 mg/kg respectively. Sample EASN/MEAGH1 detected tetrachloroethene at 1200 mg/kg, whereas EASN/MEAGH3 detected 1,1,2-trichloroethane at 40 mg/kg. Sample EASN/MEAGH4 had the highest number of VOC detections. The following parameters were detected: acetone (800 mg/kg); 2-butanone (170 mg/kg); 1,1,1-trichloroethane (51 mg/kg); trichloroethene (100 mg/kg); 4-methyl-2-pentanone (27 mg/kg); tetrachloroethene (290 mg/kg); toluene (51 mg/kg); ethyl benzene (18 mg/kg); and, total xylenes (89 mg/kg). With respect to SVOC contaminants, sample ID EASN/MEAGH0 detected fluoranthene (6800 ug/kg), pyrene (4600 ug/kg), and benzo (b) fluoranthene (3800 ug/kg) at the highest concentrations. Sample EASN/MEAGH1 detected bis (2)-ethylhexyl phthalate (1300 ug/kg), and chrysene (280 ug/kg) at highest concentrations.

There were several SVOC detections in EASN/MEAGH2. The most significant include pyrene (6900 ug/l), benzo (a) pyrene (5900 ug/l), and benzo (b) fluoranthene (4400 ug/kg). Sample EASN/MEAGH4 had the fewest number of detections of SVOC's; however, significantly elevated concentrations of isophorone (3500 ug/kg), bis (2-ethylhexyl) phthalate (4400 ug/kg), and butylbenzylphthalate (8000 ug/kg) were detected.

With respect to pesticides/PCB's, low levels were detected in all soil samples. Sample EASN/MEAGH0 detected 4,4DDT (16 ug/kg), sample EASN/MEAGH1 detected beta-BHC (6.9 ug/kg) and gamma-BHC (7.5 ug/kg). Sample EASN/MEAGH2 detected endosulfan II (11 ug/kg), alpha-chlordane (16 ug/kg), and gama chlordane (8.3 ug/kg). The replicate sample of MEAGH0 detected similar concentrations for beta BHC, and gama BHC. Sample EASN/MEAGH4 detected 4,4DDE (6.3 ug/kg), methoxychlor (15 ug/kg), and aroclor - 1232 (1100 ug/kg).

Several TAL metals and cyanide were detected in site soils at elevated concentrations. Aluminum was detected in all samples from 5210 mg/kg - 11, 400 mg/kg; antimony from 6.4 mg/kg - 109 mg/kg; arsenic from 7.2 mg/kg - 71.7 mg/kg; barium from 64.1 mg/kg - 1100 mg/kg; cadmium from 1.5 mg/kg - 70.3 mg/kg; chromium from 9.3 mg/kg - 755 mg/kg; cobalt from 4.5 mg/kg - 238 mg/kg; copper from 32

mg/kg - 310 mg/kg; lead from 56.3 mg/kg - 1180 mg/kg; zinc from 103 mg/kg - 1460 mg/kg; and, cyanide from 0.6 mg/kg - 31.6 mg/kg. Table 1 shows results of soil samples taken at the site during this investigation.

5.2 Ground Water Samples

Ground water samples detected in VOC's, SVOC's, low level PCB's/pesticides, and elevated TAL metals/ cyanide. Monitoring well #1 had 2 samples taken from the well designated as EAQZ/MEACZ4 and MEACZ1. Sample MEACZ4 had been sampled before purging, and sample MEACZ1 was sampled after purging. The highest levels of VOC's in sample MEACZ4 were total xylenes at 73,000 ug/l, toluene at 9900 ug/l, and ethylbenzene at 3800 ug/l. After purging, VOC levels in MEACZ1 slightly increased to 86,000 ug/l for total xylenes, 4900 ug/l for ethyl benzene, and 11,000 ug/l for toluene. Monitoring well #2 designated as EAQZ/MEACZ0 had lower concentrations of VOC's detected. Results for this well include hits of total xylene at 15 ug/l, tetrachloroethene at 170 ug/l, and trichloroethene at 21 ug/l. Sample EAQZ/MEACZ0 was a replicate of MEACZ1 and contained similar concentrations of the same parameters. Concentrations and parameters detected in MEACZ1 were similar to those detected in the replicate MEACZ3.

With respect to VOC's, sample MEACZ4 detected 1,2 - dichloroethene at 1300 ug/l, toluene at 9900 ug/l, ethyl benzene at 3800 ug/l, and total xylenes at 73,000 ug/l. Sample MEACZ1 was sampled after purging and detected slightly higher concentrations of the same parameters. Sample MEACZ0 had low level detections of VOC's. The highest values reported were 21 ug/l trichloroethene, and 170 ug/l of tetrachloroethene. Sample MEACZ3, which was a replicate of MEACZ4, detected the same parameters at similar concentrations.

Low levels of SVOC's were detected in all samples.

With respect to the pesticide/PCB analysis for ground water, the most notable detections were 2.3 ug/l of Aroclor 1248, and 5.3 ug/l of Aroclor 1254 in sample MEACZ4.

Several TAL metals and cyanide were detected at elevated concentrations in all ground water samples. For purposes of this discussion, only the 3 highest values are reported for each well. Sample MEACZ1 (after purging) detected arsenic (466 ug/l), cyanide

(49.7 ug/l), and aluminum (901 ug/l). Sample MEACZ0 detected cadmium at 457 ug/l, zinc at 1750 ug/l, and aluminum at 311 ug/l. Sample MEACZ3 (replicate of EACZ4) detected aluminum (2250 ug/l), zinc (5270 ug/l), cyanide (105 ug/l), lead (27.1 ug/l), chromium (137 ug/l), cadmium (21.4 ug/l), and barium (244 ug/l). This sample had the highest level of inorganic analytes detected.

5.3 Surface Water Samples

Low levels of VOC's were detected in surface water sample EASK/MEABX4 (outfall). The most significant detections include vinyl chloride (65 ug/l), 1,1-dichloroethane (110 ug/l), 1,1,1-trichloroethane (18 ug/l), benzene (19 ug/l), ethylbenzene (71 ug/l), and total xylenes (19 ug/l).

With respect to TAL metals/cyanide, sample EASK/MEABX, which was designated as an up stream control sample, detected the highest levels of inorganics. This sample contained 232 ug/l aluminum, 3.8 ug/l arsenic, and 46.3 ug/l barium. Sample EASK/MEABX4 detected antimony (107 ug/l), barium (159 ug/l), cadmium (26.2 ug/l), chromium (48.6 ug/l), copper (709 ug/l), lead (10.4 ug/l), nickel (111 ug/l), and zinc (121 ug/l). This sample was taken below a south side outfall emanating from the site.

5.4 Sediment Samples

VOC contamination was limited. A detection of 2 - butanone (4 ug/kg) in sample EAQR/MEACS1. Sample MEACS2 detected 2 ug/kg ethyl benzene, and 13 ug/kg total xylenes. The upgradient/background sediment did not detect VOC's. Sample MEACS5 (replicate of MEACS2) detected 37 ug/kg of 2 - butanone, and 34 ug/kg of benzene.

With respect to semi-volatile contamination, MEACS1 detected dibenzofuran at 100 ug/kg. Sample MEACS2 detected 74 ug/kg of dibenzofuran. Sample MEACS3 which was designated as a background sample was the most contaminated. The highest detections were phenanthrene (1000 ug/kg), flouranthene (1800 ug/kg), pyrene (2100 ug/kg), and chrysene (1000 ug/kg).

Aroclor - 1254 was detected at 100 ug/kg in sample MEACS1. The most elevated and significant detections of SVOC's, pesticides/PCB's, and TAL metals were in sample MEACS3, which was intended to represent upstream/background conditions.

6.0 MIGRATION PATHWAYS

Elevated site related contaminants were detected in all environmental media during this STEP investigation. Potential migration pathways and targets of site contaminants are discussed in this section. During the course of this investigation, information and analytical data was gathered to demonstrate that contamination to migration pathways. The five pathways evaluated are ground water, surface water, sediment, soil, and air.

6.1 GROUND WATER MIGRATION PATHWAY

6.1.1 Ground Water Utilization

Ground water beneath the CRS site is present at approximately 5 to 10 depth and flows west toward the East Branch of the Black River (E&E, 1982). Drinking water wells within 4 miles of the CRS site are screened in the Berea Sandstone (E&E, 1982).

Approximately 1,295 people use private wells that draw water from within a 4 mile radius of the site (Frost, 1995). The nearest drinking water well to the site is between 0.5 and 1 mile away. Drinking water wells in the area are screened in sandstone that is hydraulically connected to the upper unconsolidated units beneath the CRS site (E&E, 1982). No ground water-based municipal water supply systems are located within a 4-mile radius of the site (PRC1). Private ground water well usage data indicate that the following populations use private wells within the specified distance from the site: 3 people between 0.5 and 1 mile; 112 people between 1 and 2 miles; 518 people between 2 and 3 miles; and 662 people between 3 and 4 miles (Frost, 1995).

6.1.2 Ground Water Releases

During the current STEP Investigation, VOC's, SVOC's, low-level PCB's/Pesticides, and elevated TAL metals/cyanide were detected inground water. MCL exceedances were documented for the following parameters: total xylenes, toluene, ethyl benzene, tetrachloroethylene, trichloroethylene, and 1, 2 -dichloroethylene. Both Aroclor species (1248 & 1254) exceeded MCL's. Inorganic parameters exceeding MCL's include arsenic, cadmium, and chromium.

Based on analytical results, a high potential exists for ground water contamination to leach into surface water. The potential for private drinking water supplies to be impacted by the site is relatively low due to the East Branch of the Black River acting as a hydraulic barrier between the site and the majority down gradient receptors. Since the setting of the site is industrial, impact to surface water from the CRS site needs further attention through additional sampling and investigatory work.

6.2 Soil Pathway

The main sources of soil contamination was from improper drum storage practices at the site. As discussed in detail in section 5.1, high concentrations of VOC's, SVOC's, TAL metals, and low concentrations of pesticides/PCB's were detected in on-site soils, and are likely migrating to ground water. No residences, schools, daycare facilities, or sensitive populations are located close to the CRS site. Only 1 upgradient resident is located within 1 mile of the site. The site is fenced and access to the site is restricted. The primary threat of exposure to the soils at the site is from direct contact to workers. It is unknown how many employees work at M&M Aluminum Siding.

6.3 Surface Water Migration Pathway

Surface water pathway targets include intakes that supply drinking water, fisheries, and sensitive environments. From the site, surface water runoff flows into the East Branch of the Black River. The Black River flows north by northeast, then empties into Lake Erie. The area of concern (CRS site) runs from the probable point of entry (PPE) downstream fifteen miles to the target distance limit (TDL). Drinking water targets include surface water intakes. From the PPE to the TDL there are no intakes and therefore no targets exist via this route. Elywood Park, Cascade Park, and Washington Park, located along the Black River, are picnic areas only. French Creek Park and Black River Park are also located along the Black River and offer picnic areas, as well as permitted fishing. There are approximately 4 miles of wetlands located in the 15 mile TDL (PRC, 1995). Federally endangered species including the bald eagle (*Haliaeetus Ieucocephalus*) and the Indiana bat (*Myotis Sodalis*) are known inhabitants in Lorain County, and possibly in areas along the Black River within the 15 mile TDL. Appendix B shows the 15-mile downstream Target Distance Limit, and

Appendix C shows the 4-mile Resource Population ring map.

Low levels of VOC's were detected in surface water during the STEP Investigation. Section 5.3 summarizes the most significant contaminants detected and their respective concentrations. The upstream control sample contained the highest levels of TAL metals.

6.4 Sediment Pathway

Sediment samples demonstrated limited VOC contamination. The designated upstream/background sample was the most contaminated with SVOC's, PCB's, and TAL metals.

6.5 Air Migration Pathway

During previous SSI investigations, no release of TCL/TAL constituents to the air has been documented. The most likely target of this pathway would be to workers in the areas of former drum handling.

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APPENDIX A

COMPLETE ANALYTICAL RESULTS

Table 1 -- C.R.S. Summary of Soil Sample Results

Table 1 -- C.R.S. Summary of Soil Sample Results

ORGANIC & INORGANIC TRAFFIC NO.	EASN/MEAGH 0	EASN/MEAGH 1	EASN/MEAGH 2	EASN/MEAGH 3	EASN/MEAGH 4
DATE/TIME SAMPLE COLLECTED	8/14/96, 11:15	8/14/96, 13:30	8/14/96, 16:40	8/14/96, 13:45	8/14/96, 17:05
SAMPLE DEPTH	4'6" - 5'	4" - 8"	3" +/-	4" - 8"	5" - 6"
DATA QUALIFIERS	MS/MSD	N/A	N/A	Replicate w/ Drum Area	N/A
DESCRIPTION	SW Drum Area	W. Drum Area	Outfall Soil	Central Drum Area	Brighton Still
PESTICIDES/CBS	CRQL				
alpha-BHC	1.7 ug/kg	2.3 JP	6.9 P	8.4 P	3.4 P
beta-BHC	1.7 ug/kg	1.1 JP	7.5 P	7.5 P	2.7 ZP
gamma-BHC (Lindane)	1.7 ug/kg	0.16 ZJP			
heptachlor	1.7 ug/kg	3.8 JP			
aldrin	1.7 ug/kg	1.8 ZJP			
heptachlor epoxide	1.7 ug/kg				
endosulfan I	1.7 ug/kg				
4,4-DDE	3.3 ug/kg				
endosulfan II	3.3 ug/kg				
4,4-DDD	3.3 ug/kg				
endosulfan sulfate	3.3 ug/kg				
4,4-DDT	3.3 ug/kg				
methoxychlor	17.0 ug/kg				
endrin ketone	3.3 ug/kg				
alpha-chlordane	1.7 ug/kg	4.4 ZJP	5.5 P	13 JP	15 JP
gamma-chlordane	1.7 ug/kg			16 P	3.9 P
aroclor-1232	33 ug/kg			8.3 J	0.14 ZJP
<i>TAL METALS/CYANIDE</i>					
CRDL		4140	7170	5510	11400
aluminum	5210	6.4 B	14.7 B	12.1 B	21.4
antimony	12 mg/kg	10.9	7.2	9.8	8.9
arsenic	2 mg/kg	94.4	64.1	221	71.7
barium	40 mg/kg	0.77 B	0.68 B	0.60 B	1100
beryllium	1 mg/kg	1.5	6.1	18.8	0.97 B
cadmium	1 mg/kg	1000 mg/kg	82200	28000	70.3
calcium	31600	9.3	598	30.3	26600
chromium	2 mg/kg	4.5 B	5.0 B	10.9 B	1173
cobalt	10 mg/kg	32	249	98.6	238
copper	5 mg/kg	15700	11100	17000	310
iron	20 mg/kg	60	56.3	383	27500
lead	0.6 mg/kg	4240	8480	3050	75
magnesium	1000 mg/kg	3.35	381	1140	8930
manganese	3 mg/kg	0.1 mg/kg	0.13	413	4210
mercury	0.1 mg/kg	8 mg/kg	9.9 B	27.3	524
nickel	1 mg/kg	1000 mg/kg	12.6	679 B	0.14
potassium	1 mg/kg	574 B	134 B	411 B	0.27
selenium	1000 mg/kg	182 B	134 B	134 B	15.6
sodium	2 mg/kg	0.53 B	13.3	228 B	77.8
thallium	10 mg/kg	195	103	0.81 B	285 B
vandium	4 mg/kg	2 mg/kg	0.77	12.3 B	0.67 B
zinc	2 mg/kg	0.85	0.77	1460	139
cyanide					700
					24.8

B = estimated value; D = diluted; E = estimated - exceeds GC's upper calibration limit; J = estimated value; N/A = Not Applicable; P = lower of two GC columns reported;
 U = below detection limit; X = GC could not distinguish peaks; and, CRQL = Contract Required Quantification Limit.

Table 1 -- C.R.S. Summary of Soil Sample ResultsPage 3 of 3
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ORGANIC & INORGANIC TRAFFIC NO.	EASN/MEAGH 0	EASN/MEAGH 1	EASN/MEAGH 2	EASN/MEAGH 3	EASN/MEAGH 4
DATE/TIME SAMPLE COLLECTED	8/14/96, 11:15	8/14/96, 13:30	8/14/96, 16:40	8/14/96, 13:45	8/14/96, 17:05
SAMPLE DEPTH	4'6" - 5'	4"-8"	3" +/-	4"-8"	5' - 6'
DATA QUALIFIERS	MS/MSD	N/A	N/A	Replicate of W. Drum Area	N/A
DESCRIPTION	SW Drum Area	W. Drum Area	Outfall Soil	Central Drum Area	Brighton Still

DATE & TIME SAMPLE COLLECTED

Table 2 -- C.R.S. Summary of Ground Water Sample ResultsPage 2 of 5
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DATE & TIME SAMPLE COLLECTED	8/14/96, 14:30	8/14/96, 15:15/17:45	8/14/96, 13:30	8/14/96, 15:30/17:50	8/12/96, 15:30
STATIC LEVEL--WELL BOTTOM	17.7'	23.5'	17.7' - 23.5'	18.15' - 28.1'	N/A
DATA QUALIFIERS	N/A	N/A	MS/MSD	Replicate of MW-1	Trip Blank
DESCRIPTION	MW-1, Before Purge	MW-1, After Purge	MW-2	MW Well	GW Trip Blank
styrene	10 ug/l	800 J			
xylene (total)	10 ug/l	73000	15	77000	
SEMI-VOL. ORGANIC COMPOUNDS	CRQL				
phenol	10 ug/l	27 J	32 J		
2-methylphenol	10 ug/l	270	250		
4-methylphenol	10 ug/l	150	150	160	
2,4-dimethylphenol	10 ug/l	510	650		
naphthalene	10 ug/l	220	180	180	180
2-methylnaphthalene	10 ug/l	12 J	10 J		

Table 2 -- C.R.S. Summary of Ground Water Sample Results**DATE & TIME SAMPLE COLLECTED**

8/14/96, 14:30 8/14/96, 15:15/17:45 8/14/96, 13:30 8/14/96, 15:30/17:50 8/12/96, 15:30

STATIC LEVEL--WELL BOTTOM

17.7' - 23.5' 17.7' - 23.5' 18.15' - 28.1' 18.15' - 28.1' N/A

DATA QUALIFIERS

N/A N/A MS/MSD Replicate of MW-1 Trip Blank

DESCRIPTION**MW-1, Before Purge** **MW-1, After Purge** **MW-2** **NW Well** **GW Trip Blank****PESTICIDES/PCBs**CRQL 0.0020 JP / 0.31 P / 0.36 P
alpha-BHC 0.05 ug/l 0.05 ug/l
gamma-BHC (Lindane) 0.05 ug/l**PESTICIDES/PCBs**CRQL 0.0018 JP / 0.30 P / 0.34 P
heptachlor 0.05 ug/l 0.05 ug/l
aldrin 0.05 ug/l 0.05 ug/l
endosulfan I 0.10 ug/l 0.10 ug/l
dieldrin 0.10 ug/l 0.10 ug/l
4,4-DDE 0.10 ug/l 0.10 ug/l**PESTICIDES/PCBs**CRQL 0.0018 JP / 0.35 / 0.40
endrin 0.10 ug/l 0.10 ug/l
endosulfan sulfate 0.10 ug/l 0.10 ug/l**PESTICIDES/PCBs**CRQL 0.0018 JP / 0.64 P / 0.74 P
4,4-DDE 0.024 JP / 0.034 JP / 0.024 JP / 0.034 JP**PESTICIDES/PCBs**CRQL 0.055 JP / 0.73 / 0.84 P
endrin 0.10 ug/l 0.10 ug/l
endosulfan sulfate 0.10 ug/l 0.10 ug/l

Table 2 -- C.R.S. Summary of Ground Water Sample ResultsPage 4 of 5
09/29/97**DATE & TIME SAMPLE COLLECTED**

8/14/96, 14:30 8/14/96, 15:15/17:45 8/14/96, 13:30 8/14/96, 15:30/17:50 8/12/96, 15:30

STATIC LEVEL--WELL BOTTOM

17.7' - 23.5' 17.7' - 23.5' 18.15' - 28.1' N/A

DATA QUALIFIERS

N/A N/A MS/MSD Replicate of MW-1 Trip Blank

DESCRIPTION

MW-1, Before Purge MW-1, After Purge MW-2 NW Well GW Trip Blank

4,4-DDT	0.10 ug/l	/ 0.54 P / 0.61 P	N/A	N/A
endrin ketone	0.10 ug/l	/ 0.016 JP / 0.021 JP	N/A	N/A
alpha-chlordane	0.50 ug/l	/ 0.013 ZJP / 0.012 ZJP / 0.013 ZJP	N/A	N/A
gamma-chlordane	0.50 ug/l		N/A	N/A
aroclor-1248	1.0 ug/l		N/A	N/A
aroclor-1254	1.0 ug/l		N/A	N/A
aroclor-1260	1.0 ug/l		N/A	N/A
TAL METALS/CYANIDE				
CRDL	1130	901	311	2250
aluminum	200 ug/l	50.7 B	124	97.2
antimony	60 ug/l	76.3	466	153
arsenic	10 ug/l	230	214	244
barium	200 ug/l		0.42 B	0.47 B
beryllium	5 ug/l	8.4	77.3	457
cadmium	5 ug/l	211000	217000	194000
calcium	5000 ug/l	91.7	108	219000
chromium	10 ug/l	28.0 B	16.1 B	21.4
cobalt	50 ug/l	7.4 B	63.9	21.5 B
copper	25 ug/l	42700	28100	14.6 B
iron	100 ug/l		105	24.4 B
lead	3 ug/l	4.1	105	41200
magnesium	5000 ug/l	27300	28200	27.1
manganese	15 ug/l	853	11300	28600
mercury	0.2 ug/l	0.15 B	0.19 B	1320
nickel	40 ug/l	46.1	66.6	0.23
potassium	5000 ug/l	10400	11000	72.4
selenium	5 ug/l	2.5 B	3.0 B	10800
sodium	5000 ug/l	40200	44600	2.2 B
				203000

Table 2 -- C.R.S. Summary of Ground Water Sample Results

DATE & TIME SAMPLE COLLECTED	8/14/96, 14:30	8/14/96, 15:15/17:45	8/14/96, 13:30	8/14/96, 15:30/17:50	8/12/96, 15:30
STATIC LEVEL--WELL BOTTOM	17.7' -- 23.5'	17.7' -- 23.5'	18.15' -- 28.1'	18.15' -- 28.1'	N/A
DATA QUALIFIERS	N/A	N/A	MS/MSD	Replicate of MW-1	Trip Blank
DESCRIPTION	MW-1, Before Purge	MW-1, After Purge	MW-2	NW Well	GW Trip Blank
Vanadium	50 ug/l	11.6 B	18.8 B	22.7 B	N/A
Zinc	20 ug/l	5360	3830	5270	N/A
Cyanide	10 ug/l	49.2	49.7	2.7 B	N/A

B = an estimated value; D = diluted; E = estimated - exceeds GC's upper calibration limit; J = estimated value; N/A = Not Applicable; P = lower of two GC columns reported;

X = GC could not distinguish peaks; Z = determined to be a false positive;

CRDL = Contract Required Detection Limit and, CROL = Contract Required Quantification Limit.

Table 3 -- C.R.S. Summary of Surface Water and Sediment Sample ResultsPage 1 of 4
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VOLATILE ORGANIC COMPOUNDS	CRQL	S. WATER				S. WATER				SEDIMENT				SEDIMENT	
		S. WATER	S. WATER	S. WATER	S. WATER	DI WATER	S. WATER	DI WATER	S. WATER	DI WATER	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
viny chloride	10 ug/l														
chloroethane	10 ug/l														
methylene chloride	10 ug/l														
1,1-dichloroethene	10 ug/l														
1,1-dichloroethane	10 ug/l														
1,2-dichloroethene (total)	10 ug/l														
chloroform	10 ug/l														
2-butanone	10 ug/l														
1,1,1-trichloroethane	10 ug/l														
benzene	10 ug/l														
tetrachloroethene	10 ug/l														

37

4 J

10 ug/kg

2 J

130

10 ug/kg

6 J

18

10 ug/kg

4 J

19

7 J

34

toluene	10 ug/l 10 ug/kg	3 J	10 ug/kg	
ethyl benzene	10 ug/l 10 ug/kg	2 J	10 ug/kg	
xylenes (total)	1 J	71	10 ug/kg	
SEMI-VOLATILE ORGANIC COMPO	CRQL			
acenaphthylene	10 ug/l			
acenaphthene	10 ug/l 10 ug/l 10 ug/l 10 ug/l 10 ug/l 10 ug/l	1 J	N/A	330 ug/kg
phenanthrene	10 ug/l 10 ug/l	67 J	N/A	330 ug/kg
carbazole	10 ug/l	130 J	N/A	330 ug/kg
fluoranthene	10 ug/l	100 J	N/A	330 ug/kg
butylbenzylphthalate	10 ug/l	74 J	N/A	330 ug/kg
		1100	N/A	330 ug/kg
		230 J	N/A	330 ug/kg
		99 J	N/A	330 ug/kg
		1800	N/A	330 ug/kg
		2100	N/A	330 ug/kg
		86 J	N/A	330 ug/kg
		840	N/A	330 ug/kg
		1000	N/A	330 ug/kg
		1600 X	N/A	330 ug/kg
		1600 X	N/A	330 ug/kg
		920	N/A	330 ug/kg
		200 J	N/A	330 ug/kg

Table 3 -- C.R.S. Summary of Surface Water and Sediment Sample Results

		45 J		140 J			
		330 ug/kg	330 ug/kg	CRQL	CRQL	6.3 P	6.3 P
10 ug/l	N/A	N/A	N/A	0.0064 JP	N/A	0.18 JP	0.18 JP
10 ug/l	N/A	N/A	N/A	0.0064 JP	N/A	0.23 JP	0.23 JP
0.05 ug/l	0.05 ug/l	0.05 ug/l	0.05 ug/l	0.0064 JP	N/A	0.42 P	0.42 P
0.05 ug/l	0.05 ug/l	0.05 ug/l	0.05 ug/l	0.0064 JP	N/A	1.4 JP	1.4 JP
0.10 ug/l	0.10 ug/l	0.10 ug/l	0.10 ug/l	0.0064 JP	N/A	0.62 JP	0.62 JP
0.10 ug/l	0.10 ug/l	0.10 ug/l	0.10 ug/l	0.0064 JP	N/A	2.3 JP	2.3 JP
0.10 ug/l	0.10 ug/l	0.10 ug/l	0.10 ug/l	0.0044 JP	N/A	1.3 JP	1.3 JP
0.10 ug/l	0.10 ug/l	0.10 ug/l	0.10 ug/l	0.0044 JP	N/A	0.89 JP	0.89 JP
0.10 ug/l	0.10 ug/l	0.10 ug/l	0.10 ug/l	0.26 JP	N/A	0.73 JP	0.73 JP
0.10 ug/l	0.10 ug/l	0.10 ug/l	0.10 ug/l	0.26 JP	N/A	0.88 JP	0.88 JP
0.05 ug/l	0.05 ug/l	0.05 ug/l	0.05 ug/l	0.26 JP	N/A	1.1 JP	1.1 JP
0.05 ug/l	0.05 ug/l	0.05 ug/l	0.05 ug/l	0.26 JP	N/A	100	100
1.0 ug/l	1.0 ug/l	1.0 ug/l	1.0 ug/l	0.26 JP	N/A	13 JP	13 JP
		CRDL		CRDL		5550	
200 ug/l	200 ug/l	232	107	N/A	40 mg/kg	11.0 B	11.0 B
60 ug/l	60 ug/l	3.8 B	159 B	N/A	12 mg/kg	6.1	6.1
10 ug/l	10 ug/l	46.3 B	0.43 B	N/A	2 mg/kg	129	129
200 ug/l	200 ug/l	5 ug/l	26.2	N/A	40 mg/kg	0.37 B	0.37 B
5 ug/l	5 ug/l	5000 ug/l	73700	N/A	1 mg/kg	2.9	2.9
5 ug/l	5 ug/l	10 ug/l	3.1 B	N/A	1 mg/kg	8600	8600
50 ug/l	50 ug/l	50 ug/l	48.6	N/A	1000 mg/kg	297	297
25 ug/l	25 ug/l	100 ug/l	9.0 B	N/A	2 mg/kg	10.4 B	10.4 B
100 ug/l	100 ug/l	5000 ug/l	709	N/A	10 mg/kg	70.1	70.1
3 ug/l	3 ug/l	15 ug/l	2490	N/A	5 mg/kg	12300	12300
5000 ug/l	5000 ug/l	100 ug/l	10.4	N/A	20 mg/kg	46.2	46.2
15 ug/l	15 ug/l	5000 ug/l	464	N/A	1000 mg/kg	2840	2840
0.2 ug/l	0.2 ug/l	10 ug/l	140	N/A	3 mg/kg	220	220
40 ug/l	40 ug/l	5 ug/l	111	N/A	0.1 mg/kg	0.43	0.43
5000 ug/l	5000 ug/l	5 ug/l	15.8	N/A	8 mg/kg	38.2	38.2
5 ug/l	5 ug/l	10 ug/l	445000	N/A	1000 mg/kg	976 B	976 B
5000 ug/l	5000 ug/l	10 ug/l	50900	N/A	2 mg/kg	0.62 B	0.62 B
2.3 B	2.3 B	2.3 B	2.3 B	N/A	1000 mg/kg	124 B	124 B
				N/A	2 mg/kg	0.38 B	0.38 B

Table 3 -- C.R.S. Summary of Surface Water and Sediment Sample Results

Sample ID	Media Type	Conc. (ug/l)	Conc. (mg/kg)	Method	Notes
121	Surface Water	50 ug/l	N/A	2.1 B	
121	Surface Water	20 ug/l	N/A	10.6 E	
121	Surface Water	0.0	0.0	121	
123	Sediment	0.0	0.0	123	
				12.1 B	

NOTE 1: For VOCs, SVOCs, Pest./PCBs, D = diluted; E = estimated - exceeds GC's upper calibration limit; J = estimated value; P = lower of two GC columns reported;

U = below detection limit; X = GC could not distinguish peaks; and, CRQL = Contract Required Quantification Limit.

NOTE 2: For metals, B = an estimated value; CRDL = Contract Required Detection Limit.

NOTE 3: (0.0) = Parentheses indicate that value is below both CRQL and SQL/MDL.

NOTE 4: * = Sample was analyzed more than twice and/or diluted by lab.

C.R.S. Soil Sample Results

SAMPLE DEPTH	SW Drum Area	W Drum Area	Outfall Soil	Central D.A. (Rep.)	Brighton Still
EASN/MEAGH 0 8/14/96, 11:15	EASN/MEAGH 1 8/14/96, 13:30	EASN/MEAGH 2 8/14/96, 16:40	EASN/MEAGH 3 8/14/96, 13:45	EASN/MEAGH 4 8/14/96, 17:05	
4'6" - 5' 4"-8"	3" +/- 4"-8"	3" +/- 4"-8"	5' - 6' 5" - 8"		

VOLATILE ORGANIC COMPOUNDS	CRQL	EASN/MEAGH 0 8/14/96, 11:15	EASN/MEAGH 1 8/14/96, 13:30	EASN/MEAGH 2 8/14/96, 16:40	EASN/MEAGH 3 8/14/96, 13:45	EASN/MEAGH 4 8/14/96, 17:05
chloromethane	10 ug/kg	110 U	69 U	14 U	14 U	14 U
bromomethane	10 ug/kg	110 U	69 U	14 U	14 U	14 U
vinyl chloride	10 ug/kg	110 U	69 U	14 U	14 U	14 U
chloroethane	10 ug/kg	110 U	69 U	14 U	14 U	14 U
methylene chloride	10 ug/kg	110 U	69 U	14 U	14 U	14 U
acetone	10 ug/kg	66 J	63 J	14 U	14 U	14 U
carbon disulfide	10 ug/kg	110 U	69 U	14 U	14 U	14 U
1,1-dichloroethene	10 ug/kg	110 U	110 U	14 U	14 U	14 U
1,1-dichloroethane	10 ug/kg	110 U	69 U	14 U	14 U	14 U
1,2-dichloroethene (total)	10 ug/kg	110 U	69 U	14 U	14 U	14 U
chloroform	10 ug/kg	110 U	69 U	14 U	14 U	14 U

C.R.S. Soil Sample Results

SAMPLE DEPTH	SW Drum Area				W Drum Area				Outfall Soil				Central D.A.(Rep.)				Brighton Still			
	EASN/MEAGH 0 8/14/96, 11:15	EASN/MEAGH 1 8/14/96, 13:30	EASN/MEAGH 2 8/14/96, 16:40	EASN/MEAGH 3 8/14/96, 13:45	EASN/MEAGH 4 8/14/96, 17:05															
4'6" - 5'	4"-8"	3" +/-	4"-8"	4"-8"	5" - 6'															
1,2-dichloroethane	10 ug/kg	110 U	89 U	14 U	1400 U	60 U														
2-butanone	10 ug/kg	110 U	69 U	14 U	1400 U	170														
1,1,1-trichloroethane	10 ug/kg	14 J	45 J	14 U	94 J/220 JD	51 J														
carbon tetrachloride	10 ug/kg	110 U	69 U	14 U	1400 U	60 U														
bromodichloromethane	10 ug/kg	110 U	69 U	14 U	1400 U	60 U														
1,2-dichloropropane	10 ug/kg	110 U	69 U	14 U	1400 U	60 U														
cis-1,3-dichloropropene	10 ug/kg	110 U	69 U	14 U	1400 U	60 U														
trichloroethene	10 ug/kg	19000 E	130	4 J	540 /220 JD	100														
dibromo-chloromethane	10 ug/kg	110 U	69 U	14 U	1400 U	60 U														
1,1,2-trichloroethane	10 ug/kg	110 U	10 J	14 U	40 J	60 U														
benzene	10 ug/kg	110 U	69 U	14 U	1400 U	60 U														
trans-1,3-dichloropropene	10 ug/kg	110 U	69 U	14 U	1400 U	60 U														
	10 ug/kg	110 U	69 U	14 U	1400 U	27 J														

C.R.S. Soil Sample Results

SAMPLE DEPTH	SW Drum Area				W Drum Area				Outfall Soil				Central DA (Rep.)				Brighton Still			
	EASN/MEAGH 0	EASN/MEAGH 1	EASN/MEAGH 2	EASN/MEAGH 3	EASN/MEAGH 4	EASN/MEAGH 0	EASN/MEAGH 1	EASN/MEAGH 2	EASN/MEAGH 3	EASN/MEAGH 4	EASN/MEAGH 0	EASN/MEAGH 1	EASN/MEAGH 2	EASN/MEAGH 3	EASN/MEAGH 4	EASN/MEAGH 0	EASN/MEAGH 1	EASN/MEAGH 2	EASN/MEAGH 3	
4'6" - 5'	8/14/96, 11:15	8/14/96, 13:30	8/14/96, 16:40	8/14/96, 13:45	8/14/96, 17:05															
2-hexanone	10 ug/kg	110 U	69 U	14 U	1400 U	10 ug/kg	110 U	69 U	14 U	1400 U	10 ug/kg	110 U	69 U	14 U	1400 U	10 ug/kg	110 U	69 U	14 U	1400 U
tetrachloroethene	10 ug/kg	500	1200	9 J	290	10 ug/kg	110 U	69 U	14 U	1400 U	10 ug/kg	110 U	69 U	14 U	1400 U	10 ug/kg	110 U	69 U	14 U	1400 U
1,1,2,2-tetrachloroethane	10 ug/kg	110 U	69 U	14 U	1400 U	10 ug/kg	110 U	69 U	14 U	1400 U	10 ug/kg	110 U	69 U	14 U	1400 U	10 ug/kg	110 U	69 U	14 U	1400 U
toluene	10 ug/kg	110 U	69 U	14 U	1400 U	10 ug/kg	110 U	69 U	14 U	1400 U	10 ug/kg	110 U	69 U	14 U	1400 U	10 ug/kg	110 U	69 U	14 U	1400 U
chlorobenzene	10 ug/kg	110 U	69 U	14 U	1400 U	10 ug/kg	110 U	69 U	14 U	1400 U	10 ug/kg	110 U	69 U	14 U	1400 U	10 ug/kg	110 U	69 U	14 U	1400 U
ethyl benzene	10 ug/kg	110 U	69 U	14 U	1400 U	10 ug/kg	110 U	69 U	14 U	1400 U	10 ug/kg	110 U	69 U	14 U	1400 U	10 ug/kg	110 U	69 U	14 U	1400 U
styrene	10 ug/kg	110 U	69 U	14 U	1400 U	10 ug/kg	110 U	69 U	14 U	1400 U	10 ug/kg	110 U	69 U	14 U	1400 U	10 ug/kg	110 U	69 U	14 U	1400 U
xylenes (total)	10 ug/kg	110 U	22 U	14 U	230 JD/	10 ug/kg	110 U	22 U	14 U	230 JD/	10 ug/kg	110 U	22 U	14 U	230 JD/	10 ug/kg	110 U	22 U	14 U	230 JD/

C.R.S. Soil Sample Results

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SAMPLE DEPTH

EASN/MEAGH 0 8/14/96, 11:15 4'6" - 5'
EASN/MEAGH 1 8/14/96, 13:30 4"-8"
EASN/MEAGH 2 8/14/96, 16:40 3" +/-
EASN/MEAGH 3 8/14/96, 13:45 4"-8"
EASN/MEAGH 4 8/14/96, 17:05 5" - 6"

SW Drum Area W Drum Area Outfall Soil Central DA (Rep.) Brighton Still

SEMI-VOLATILE ORGANIC COMPOUNDS	CRQL	SW	W	Outfall	Central DA	Brighton Still
phenol	330 ug/kg	1100 U	460 U	920 U	800 U	2000 U
bis(2-chloroethyl)ether	330 ug/kg	1100 U	460 U	920 U	800 U	2000 U
2-chlorophenol	330 ug/kg	1100 U	460 U	920 U	800 U	2000 U
1,3-dichlorobenzene	330 ug/kg	1100 U	460 U	920 U	800 U	2000 U
1,4-dichlorobenzene	330 ug/kg	1100 U	460 U	920 U	800 U	2000 U
1,2-dichlorobenzene	330 ug/kg	1100 U	460 U	920 U	800 U	2000 U
2-methylphenol	330 ug/kg	1100 U	460 U	920 U	800 U	2000 U
2,2-oxybis(1-chloropropane)	330 ug/kg	1100 U	460 U	920 U	800 U	2000 U
4-methylphenol	330 ug/kg	1100 U	460 U	920 U	800 U	2000 U
n-nitroso-di-n-dipropylamine	330 ug/kg	1100 U	460 U	920 U	800 U	2000 U
hexachloroethane	330 ug/kg	1100 U	460 U	920 U	800 U	2000 U

C.R.S. Soil Sample Results

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SAMPLE DEPTH	SW Drum Area				W Drum Area				Outfall Soil				Central D.A.(Rep.)				Brighton Still			
	EASN/MEAGH 0	EASN/MEAGH 1	EASN/MEAGH 2	EASN/MEAGH 3	EASN/MEAGH 0	EASN/MEAGH 1	EASN/MEAGH 2	EASN/MEAGH 3	EASN/MEAGH 0	EASN/MEAGH 1	EASN/MEAGH 2	EASN/MEAGH 3	EASN/MEAGH 0	EASN/MEAGH 1	EASN/MEAGH 2	EASN/MEAGH 3	EASN/MEAGH 0	EASN/MEAGH 1	EASN/MEAGH 2	EASN/MEAGH 3
4'6" - 5'	4'6"	4'6"	3" +/-	4" - 8"	4'6"	4'6"	3" +/-	4" - 8"	5" - 6"	5"	5" - 6"	5" - 6"	5" - 6"	5" - 6"	5" - 6"	5" - 6"	5" - 6"	5" - 6"	5" - 6"	5" - 6"
nitrobenzene	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U
isophorone	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U
2-nitrophenol	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U
2,4-dimethylphenol	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U
bis(2-chloroethoxy)methane	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U
2,4-dichlorophenol	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U
1,2,4-trichlorobenzene	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U
naphthalene	330 ug/kg	150 J / 140 J	180 J	300 J / 290 J	150 J / 140 J	180 J	300 J / 290 J	120 J / 120 J	150 J / 140 J	180 J	300 J / 290 J	120 J / 120 J	150 J / 140 J	180 J	300 J / 290 J	120 J / 120 J	150 J / 140 J	180 J	300 J / 290 J	
4-chloroaniline	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U
hexachlorobutadiene	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U
4-chloro-3-methylphenol	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U
2-methylnaphthalene	260 J / 260 J	130 J / 110 J	120 J / 140 J	260 J / 260 J	130 J / 110 J	120 J / 140 J	260 J / 260 J	130 J / 110 J	260 J / 260 J	130 J / 110 J	120 J / 140 J	260 J / 260 J	130 J / 110 J	120 J / 140 J	260 J / 260 J	130 J / 110 J	120 J / 140 J	260 J / 260 J	130 J / 110 J	120 J / 140 J
hexachlorocyclopentadiene	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U	330 ug/kg	1100 U	460 U	920 U

C.R.S. Soil Sample Results

SAMPLE DEPTH		SW Drum Area		W Drum Area		Outfall Soil		Central D.A.(Rep.)		Brighton Still	
		EASN/MEAGH 0	EASN/MEAGH 1	EASN/MEAGH 2	EASN/MEAGH 3	EASN/MEAGH 0	EASN/MEAGH 1	EASN/MEAGH 2	EASN/MEAGH 3	EASN/MEAGH 4	EASN/MEAGH 4
8'14/96, 11:15		8/14/96, 13:30	8/14/96, 16:40	8/14/96, 13:45	8/14/96, 13:45	8/14/96, 11:15	8/14/96, 13:30	8/14/96, 16:40	8/14/96, 13:45	8/14/96, 13:45	8/14/96, 17:05
4'6" - 5'		4'"-8"	4'"-8"	3" +/-	4"-8"	5' -- 6'					
2,4,6-trichlorophenol	330 ug/kg	1100 U	460 U	920 U	800 U						2000 U
2,4,5-trichlorophenol	800 ug/kg	2700 U	1200 U	2300 U	2000 U						4900 U
2-chloronaphthalene	330 ug/kg	1100 U	460 U	920 U	800 U						2000 U
2-nitroaniline	800 ug/kg	2700 U	1200 U	2300 U	2000 U						4900 U
dimethylphthalate	330 ug/kg	1100 U	460 U	920 U	800 U						2000 U
acenaphthylene	330 ug/kg	120 J/ 120 J	140 J/ 120 J	100 J/ 120 J	2300/ 2300						2000 U
2,6-dinitrotoluene	330 ug/kg	1100 U	460 U	920 U	800 U						2000 U
3-nitroaniline	800 ug/kg	2700 U	1200 U	2300 U	2000 U						4900 U

C.R.S. Soil Sample Results

	EASN/MEAGH 0	EASN/MEAGH 1	EASN/MEAGH 2	EASN/MEAGH 3	EASN/MEAGH 4
SAMPLE DEPTH	8/14/96, 11:15	8/14/96, 13:30	8/14/96, 16:40	8/14/96, 13:45	8/14/96, 17:05
	4'6" - 5'	4'1"-8"	3" +/-	4" -8"	5" - 6"
SW Drum Area	Outfall Soil	W Drum Area	Central D.A.(Rep.)	Brighton Still	

SEMI-VOLATILE ORGANIC COMPOU	CRQL				
acenaphthene	330 ug/kg	1100 U	460 U	160 J / 120 J	800 U
2,4-dinitrophenol	800 ug/kg	2700 U	1200 U	2300 U	2000 U
4-nitrophenol	800 ug/kg	2700 U	1200 U	2300 U	4900 U
dibenzofuran	330 ug/kg	130 J / 130 J	460 U	920 U	800 U
2,4-dinitrotoluene	330 ug/kg	1100 U	460 U	920 U	800 U
diethylphthalate	330 ug/kg	1100 U	460 U	920 U	800 U
4-chlorophenyl-phenyl ether	330 ug/kg	1100 U	460 U	920 U	800 U
fluorene	330 ug/kg	1100 U	460 U	160 J / 120 J	800 U
4-nitroaniline	800 ug/kg	2700 U	460 U	2300 U	2000 U
4,6-dinitro-2-methylphenol	800 ug/kg	2700 U	460 U	2300 U	4900 U
n-nitrosodiphenylamine	330 ug/kg	1100 U	460 U	920 U	800 U

C.R.S. Soil Sample Results

SAMPLE DEPTH		SW Drum Area		W Drum Area		Outfall Soil		Central D.A.(Rep.)		Brighton Still	
		EASN/MEAGH 0	EASN/MEAGH 1	EASN/MEAGH 2	EASN/MEAGH 3	EASN/MEAGH 4					
4'6" - 5'	8/14/96, 11:15	4" - 8"	4'6" - 5'	3" +/-	4' - 8"	4' - 8"				5" - 6"	
hexachlorobenzene	330 ug/kg	1100 U	460 U	920 U	800 U	2000 U					
pentachlorophenol	330 ug/kg	1100 U	460 U	920 U	800 U	2000 U					
phenanthrene	800 ug/kg	2700 U	460 U	2300 U	2000 U	4900 U					
anthracene	330 ug/kg	3400/ 3400	110 J/ 99 J	1300/ 1200	92 J/ 93 J	2000 U					
carbazole	330 ug/kg	470 J/ 510 J	50 J/	750 J/ 650 J	800 U	2000 U					
di-n-butylphthalate	330 ug/kg	1110 J/	110 J/ 100 J	110 J/ 94 J	90 J/ 98 J	1900 J/ 1800 J					
fluoranthene	330 ug/kg	6800/ 6900	160 J/ 150 J	4000/ 4000	110 J/ 120 J	2000 U					
pyrene	330 ug/kg	4600/ 4700	220 J/ 200 J	6900/ 9400 E	260 J/ 270 J	2000 U					
butylbenzylphthalate	330 ug/kg	1100 U	340 J/ 310 J	420 J/ 490 J	360 J/ 390 J	8000/ 8800					
3,3-dichlorobezidine	330 ug/kg	1100 U	460 U	920 U	800 U	2000 U					
benzo(a)anthracene	330 ug/kg	2300/ 2300	170 J/ 150 J	2200/ 2700	160 J/ 180 J	2000 U					
chloroene	330 ug/kg	3700/ 3800	260 J/ 280 J	3400/ 3100	240 J/ 230 J	2000 U					

C.R.S. Soil Sample Results

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SAMPLE DEPTH	SW Drum Area		W Drum Area		Outfall Soil		Central D.A.(Rep.)		Brighton Still	
	EASN/MEAGH 0	EASN/MEAGH 1	EASN/MEAGH 2	EASN/MEAGH 3	EASN/MEAGH 4					
4'6" - 5'	8/14/96, 11:15	8/14/96, 13:30	8/14/96, 16:40	8/14/96, 13:45	8/14/96, 17:05					
bis(2-ethylhexyl)phthalate	330 ug/kg	720 J/	1100/ 1300	940/ 1100	1400/ 1400	3900/ 4400				
di-n-octylphthalate	330 ug/kg	1100 U	460 U	920 U	800 U	2000 U				
benzo(b)fluoranthene	330 ug/kg	3800/ 4400	430 J/ 360 J	3800/ 4400	380 J/ 330 J	2000 U				
benzo(k)fluoranthene	330 ug/kg	1900/ 2100	270 J/ 240 J	2500/ 1600	170 J/ 220 J	2000 U				
benzo(a)pyrene	330 ug/kg	2400/ 2500	250 J/ 220 J	5900/ 5900	180 J/ 190 J	2000 U				
indeno(1,2,3-cd)pyrene	330 ug/kg	700 J/ 600 J	130 J/ 110 J	1900/ 1600	160 J/ 1130 J	2000 U				
dibenz(a,h)anthracene	330 ug/kg	1100 U	69 J/	740 J/ 630 J	800 U	2000 U				
benzo(g,h,i)perylene	330 ug/kg	660 J/ 550 J	140 J/ 140 J	3000/ 2400	230 J/	2000 U				

C.R.S. Soil Sample Results

SAMPLE DEPTH	EASN/MEAGH 0	EASN/MEAGH 1	EASN/MEAGH 2	EASN/MEAGH 3	EASN/MEAGH 4
4'6" - 5'	8/14/96, 11:15	8/14/96, 13:30	8/14/96, 16:40	8/14/96, 13:45	8/14/96, 17:05
	4'6" - 5'	4' - 8"	3" +/-	4" - 8"	5' - 6'

SW Drum Area W Drum Area Outfall Soil Central D.A.(Rep.) Brighton Still

PESTICIDES/PCBs	CRQL	EASN/MEAGH 1	EASN/MEAGH 2	EASN/MEAGH 3	EASN/MEAGH 4
alpha-BHC	1.7 ug/kg	9.3 U	2.4 U	12 U	2.0 U
beta-BHC	1.7 ug/kg	2.3 ZP	6.9 P	12U	2.7 ZP
delta-BHC	1.7 ug/kg	9.3 U	2.4 U	12 U	2.0 U
gamma-BHC (Lindane)	1.7 ug/kg	1.1 JP	7.5 P	12U	2.0 U
heptachlor	1.7 ug/kg	0.16 ZJP	2.4 U	12 U	2.0 U
heptachlor epoxide	1.7 ug/kg	3.8 JP	24 U	0.037 ZJP	20 U
aldrin	1.7 ug/kg	1.8 ZJP	3.6 P	8.8 JP	3.7 P
endosulfan I	1.7 ug/kg	9.3 U	2.4 U	12 U	2.0 U
dieldrin	3.3 ug/kg	18 U	4.6 U	23 U	4.0 U
4,4-DDE	3.3 ug/kg	18 U	4.6 U	23 U	4.0 U
endrin	3.3 ug/kg	18 U	4.6 U	23 U	4.0 U
					6.3
					3.9 U
					3.9 U

C.R.S. Soil Sample Results

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09/29/97

SAMPLE DEPTH	SW Drum Area			W Drum Area			Outfall Soil			Central D.A.(Rep.) Brighton Still		
	EASN/MEAGH 0	EASN/MEAGH 1	EASN/MEAGH 2	EASN/MEAGH 3	EASN/MEAGH 4	EASN/MEAGH 5	EASN/MEAGH 6	EASN/MEAGH 7	EASN/MEAGH 8	EASN/MEAGH 9	EASN/MEAGH 10	EASN/MEAGH 11
4'6" -- 5'	8/14/96, 11:15	8/14/96, 13:30	8/14/96, 16:40	8/14/96, 13:45	8/14/96	8/14/96	8/14/96	8/14/96	8/14/96	8/14/96	8/14/96	8/14/96, 17:05
	4"6"	4"-8"	3" +/-	4"-8"	5" - 6"							
endosulfan II	3.3 ug/kg	18 U	4.7 P	5.1 P	1.7 J							
4,4-DDD	3.3 ug/kg	18 U	0.36 JP	23 U	0.63 ZJP	2.1 J						
endosulfan sulfate	3.3 ug/kg	18 U	0.80 ZJP	23 U	1.9 ZJP	3.9 U						
	3.3 ug/kg	16 J	1.4 JP	21 JP	2.0 J	4.0 P						
methoxychlor	17.0 ug/kg	93 U	24 U	120 U	20 U	15 JP						
endrin ketone	3.3 ug/kg	18 U	4.6 U	13 JP	4.0 U	3.9 U						
	3.3 ug/kg	18 U	4.6 U	23 U	4.0 U	3.9 U						
endrin aldehyde	1.7 ug/kg	4.4 ZJP	5.5 P	16 P	3.9 P	2.0 U						
	1.7 ug/kg	9.3 U	24 U	8.3 J	0.14 ZJP	0.20 JP						
gamma-chlordane	17 ug/kg											
	170 ug/kg	930 U	240 U	1200 U	200 U	200 U						
toxaphene												
aroclor-1016	33 ug/kg		180 U	46 U	460 U	230 U						
	67 ug/kg	370 U	46 U	460 U	400 U	400 U						
aroclor-1221												
aroclor-1232												
aroclor-1242												
	33 ug/kg	180 U	46 U	230 U	46 U	40 U						
	33 ug/kg	180 U	46 U	230 U	46 U	40 U						

C.R.S. Soil Sample Results

SAMPLE DEPTH	SW Drum Area			W Drum Area			Outfall Soil			Central DA.(Rep.)			Brighton Still		
	EASN/MEAGH 0	EASN/MEAGH 1	EASN/MEAGH 2	EASN/MEAGH 3	EASN/MEAGH 4	EASN/MEAGH 0	EASN/MEAGH 1	EASN/MEAGH 2	EASN/MEAGH 3	EASN/MEAGH 4	EASN/MEAGH 0	EASN/MEAGH 1	EASN/MEAGH 2	EASN/MEAGH 3	EASN/MEAGH 4
4'6" - 5'	8/14/96, 11:15	8/14/96, 13:30	8/14/96, 16:40	8/14/96, 13:45	8/14/96, 17:05	4'6"-8"	4'6"-8"	3" +/-	4" -8"	4" -8"	5' - 6'	5' - 6'	5' - 6'	5' - 6'	5' - 6'
aroclor-1248	33 ug/kg	180 U	46 U	230 U	40 U	39 U	46 U	230 U	40 U	40 U	39 U	46 U	230 U	40 U	39 U
aroclor-1254	33 ug/kg	180 U	46 U	230 U	40 U	39 U	46 U	230 U	40 U	40 U	39 U	46 U	230 U	40 U	39 U
aroclor-1260	33 ug/kg	180 U	46 U	230 U	40 U	39 U	46 U	230 U	40 U	40 U	39 U	46 U	230 U	40 U	39 U

C.R.S.: Soil Sample Results

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09/29/97

SAMPLE DEPTH	SW Drum Area	W Drum Area	Outfall Soil	Central D.A.(Rep.)	Brighton Still
EASN/MEAGH 0	EASN/MEAGH 1	EASN/MEAGH 2	EASN/MEAGH 3	EASN/MEAGH 4	
8/14/96, 11:15	8/14/96, 13:30	8/14/96, 16:40	8/14/96, 13:45	8/14/96, 17:05	
4'6" -- 5'	4" -- 8"	3" +/-	4" -- 8"	5" -- 6"	

C.R.S. Soil Sample Results

	SW Drum Area	W Drum Area	Outfall Soil	Central D.A.(Rep.)	Brighton Still
EASN/MEAGH 0	EASN/MEAGH 1	EASN/MEAGH 2	EASN/MEAGH 3	EASN/MEAGH 4	
8/14/96, 11:15	8/14/96, 13:30	8/14/96, 16:40	8/14/96, 13:45	8/14/96, 17:05	
SAMPLE DEPTH	4'6" -- 5'	4" -- 8"	3" +/-	4" -- 8"	5" -- 6"

C.R.S. Ground Water Sample Results

DATE & TIME SAMPLE COLLECTED

8/14/96, 14:30 8/14/96, 15:15/17:45 8/14/96, 13:30 8/14/96, 15:30/17:50 8/12/96, 15:30

STATIC LEVEL--WELL BOTTOM

17.7 - 23.5' 17.7' - 23.5' 18.15' - 28.1'

DATA QUALIFIERS

N/A N/A MS/MSD Replicate of MW-1 N/A

VOLATILE ORGANIC COMPOUNDS	CRQL								
chloromethane	10 ug/l	2000 U		2000 U		10 U		2500 U	
bromomethane	10 ug/l	2000 U		2000 U		10 U		2500 U	
vinyl chloride	10 ug/l	2000 U		2000 U		2 J		2500 U	
chloroethane	10 ug/l	2000 U		2000 U		10 U		2500 U	
methylene chloride	10 ug/l	2000 U		2000 U		10 U		2500 U	
acetone	10 ug/l	2000 U		2000 U		10 U		2500 U	
carbon disulfide	10 ug/l	2000 U		2000 U		10 U		2500 U	
1,1-dichloroethene	10 ug/l	2000 U		2000 U		10 U		2600 U	

C.R.S. Ground Water Sample Results

DATE & TIME SAMPLE COLLECTED

8/14/96, 14:30 8/14/96, 15:15/17:45 8/14/96, 13:30 8/14/96, 15:30/17:50 8/12/96, 15:30

STATIC LEVEL--WELL BOTTOM

17.7 - 23.5' 17.7 - 23.5' 18.15' - 28.1' 18.15' - 28.1' N/A

DATA QUALIFIERS

N/A N/A MS/MSD Replicate of MW-1 N/A

1,1-dichloroethane

10 ug/l 450 J 420 J 2 J 350 J 10 U

cis-1,2-dichloroethene

10 ug/l N/A N/A N/A N/A N/A

1,2-dichloroethene (total)

10 ug/l 1300 J 1400 J 10 U 1200 J 10 U

trans-1,2-dichloroethene

10 ug/l N/A N/A N/A N/A N/A

chloroform

10 ug/l 2000 U 2000 U 10 U 2500 U 10 U

1,2-dichloroethane

10 ug/l 2000 U 2000 U 10 U 2500 U 10 U

1,1,1-trichloroethane

10 ug/l N/A N/A N/A N/A N/A

carbon tetrachloride

10 ug/l 2000 U 2000 U 10 U 2500 U 10 U

bromodichloromethane

10 ug/l 2000 U 2000 U 10 U 2500 U 10 U

C.B.S. Ground Water Sample Results

DATE & TIME SAMPLE COLLECTED	8/14/96, 14:30	8/14/96, 15:15/17:45	8/14/96, 13:30	8/14/96, 15:30/17:50	8/12/96, 15:30
STATIC LEVEL--WELL BOTTOM	17.7' - 23.5'	17.7' - 23.5'	18.15' - 28.1'	18.15' - 28.1'	N/A
DATA QUALIFIERS	N/A	N/A	MS/MSD	Replicate of MW-1	N/A
1,2-dichloropropane	10 ug/l	2000 U	10 U	2500 U	10 U
cis-1,3-dichloropropene	10 ug/l	2000 U	10 U	2500 U	10 U
trichloroethene	10 ug/l	2000 U	21	2500 U	10 U
dibromochloromethane	10 ug/l	2000 U	10 U	2500 U	10 U
1,1,2-trichloroethane	10 ug/l	2000 U	10 U	2500 U	10 U
benzene	10 ug/l	2000 U	2000 U	2000 U	10 U
trans-1,3-dichloropropene	10 ug/l	2000 U	10 U	2500 U	10 U
bromoform	10 ug/l	2000 U	2000 U	2000 U	10 U
4-methyl-2-pentanone	10 ug/l	2000 U	2000 U	2000 U	10 U

C.R.S. Ground Water Sample Results

DATE & TIME SAMPLE COLLECTED	8/14/96, 14:30	8/14/96, 15:15/17:45	8/14/96, 13:30	8/14/96, 15:30/17:50	8/12/96, 15:30
STATIC LEVEL--WELL BOTTOM	17.7 - 23.5'	17.7 - 23.5'	18.15 - 28.1'	18.15 - 28.1'	N/A
DATA QUALIFIERS	N/A	N/A	MS/MSD Replicate of MW-1	N/A	N/A
2-hexanone	10 ug/l	2000 U	2000 U	10 U	2500 U
tetrachloroethene	10 ug/l	2000 U	2000 U	170	2500 U
1,1,2,2-tetrachloroethane	10 ug/l	2000 U	2000 U	10 U	2500 U
1,2-dibromoethane	10 ug/l	N/A	N/A	N/A	N/A
VOLATILE ORGANIC COMPOUNDS	CRQL				
toluene	10 ug/l	9900	11000	1 J	8400
chlorobenzene	10 ug/l	2000 U	2000 U	10 U	2500 U
ethyl benzene	10 ug/l	3800	4900	10 U	4200
styrene	10 ug/l				2500 U

C.R.S. Ground Water Sample Results**DATE & TIME SAMPLE COLLECTED**

8/14/96, 14:30 8/14/96, 15:15/17:45 8/14/96, 13:30 8/14/96, 15:30/17:50 8/12/96, 15:30

STATIC LEVEL-WELL BOTTOM

17.7' - 23.5' 17.7' - 23.5' 18.15' - 28.1' 18.15' - 28.1' N/A

DATA QUALIFIERS

N/A N/A MS/MSD Replicate of MW-1 N/A

xylene (total)	10 ug/l	73000	86000	15	77000	100 U
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SEMI-VOL. ORGANIC COMPOUNDS	CRQL					
1,2-dibromo-3-chloropropane	10 ug/l	N/A	N/A	N/A	N/A	N/A
phenol	10 ug/l	100 U	27 J	30 U	30 U	N/A
bis(2-chloroethyl)ether	10 ug/l	100 U	100 U	30 U	100 U	N/A
2-chlorophenol	10 ug/l	100 U	100 U	30 U	100 U	N/A
1,3-dichlorobenzene	10 ug/l	100 U	100 U	30 U	100 U	N/A
1,4-dichlorobenzene	10 ug/l				100 U	N/A

C.R.S. Ground Water Sample Results

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09/29/97

DATE & TIME SAMPLE COLLECTED

8/14/96, 14:30 8/14/96, 15:15/17:45 8/14/96, 13:30 8/14/96, 15:30/17:50 8/12/96, 15:30

STATIC LEVEL--WELL BOTTOM

17.7 - 23.5' 17.7 - 23.5' 18.15 - 28.1' 18.15 - 28.1'

DATA QUALIFIERS

N/A N/A MS/MSD Replicate of MW-1 N/A

1,2-dichlorobenzene

10 ug/l

100 U 30 U 100 U

2-methylphenol

10 ug/l

270 30 U 250

N/A

2,2-oxybis(1-chloropropane)

10 ug/l

100 U 30 U 100 U

N/A

4-methylphenol

10 ug/l

150 30 U 150

N/A

n-nitrosodi-n-propylamine

10 ug/l

100 U 30 U 100 U

N/A

hexachloroethane

10 ug/l

100 U 30 U 100 U

N/A

isophorone

10 ug/l

100 U 30 U 100 U

N/A

2-nitrophenol

10 ug/l

100 U 30 U 100 U

N/A

2,4-dimethylphenol

10 ug/l

510 30 U 650

N/A

DATE & TIME SAMPLE COLLECTED	8/14/96, 14:30	8/14/96, 15:15/17:45	8/14/96, 13:30	8/14/96, 15:30/17:50	8/12/96, 15:30
STATIC LEVEL-WELL BOTTOM	17.7' - 23.5'	17.7' - 23.5'	18.15' - 28.1'	18.15' - 28.1'	N/A
DATA QUALIFIERS	N/A	N/A	N/A	MS/MSD Replicate of MW-1	N/A
bis(2-chloroethoxy)methane	10 ug/l	100 U	100 U	30 U	100 U
2,4-dichlorophenol	10 ug/l	100 U	100 U	30 U	N/A
1,2,4-trichlorobenzene	10 ug/l	100 U	100 U	30 U	N/A
naphthalene	10 ug/l	220	180	180	N/A
4-chloroaniline	10 ug/l	100 U	100 U	30 U	100 U
hexachlorobutadiene	10 ug/l	100 U	100 U	30 U	N/A
4-chloro-3-methylphenol	10 ug/l	100 U	100 U	30 U	100 U
2-methylnaphthalene	10 ug/l	12 J	10 J	100 U	N/A
hexachlorocyclopentadiene	10 ug/l	100 U	100 U	30 U	100 U

C.R.S. Ground Water Sample Results

DATE & TIME SAMPLE COLLECTED	8/14/96, 14:30	8/14/96, 15:15/17:45	8/14/96, 13:30	8/14/96, 15:30/17:50	8/12/96, 15:30
STATIC LEVEL--WELL BOTTOM	17.7' - 23.5'	17.7' - 23.5'	18.15' - 28.1'	18.15' - 28.1'	N/A
DATA QUALIFIERS	N/A	N/A	MS/MSD	Replicate of MW-1	N/A
SEMI-VOL. ORGANIC COMPOUNDS	CRQL				
2,4,6-trichlorophenol	10 ug/l	100 U	100 U	100 U	N/A
2,4,5-trichlorophenol	25 ug/l	250 U	250 U	75 U	N/A
2-chloronaphthalene	10 ug/l	100 U	100 U	30 U	N/A
2-nitroaniline	25 ug/l	250 U	250 U	75 U	N/A
dimethylphthalate	10 ug/l	100 U	100 U	30 U	N/A
acenaphthylene	10 ug/l	100 U	100 U	18 J	N/A
2,6-dinitrotoluene	10 ug/l	100 U	100 U	100 U	N/A
3-nitroaniline	25 ug/l	250 U	250 U	75 U	N/A

8/14/96, 14:30

STATIC ENERGY WEI IN BOTTOM

DATA QUALIFIERS

8/14/96, 14:30 8/14/96, 15:15/17:45

$$177 - 23.5 = 153.5$$

N/A

8/14/96, 13:30 8/14/96, 15:30/17:50

$$18^{\circ}15' - 28^{\circ}1' = 18^{\circ}5'$$

MS/MSD

8/12/96, 15:30

N/A

N/A

STATIC | EYE | WELL | BOTTOM

acenaphthene

1-nitronaphthalene

dibenzofuran

2,4-dinitrotoluene

diethylphthalate

4-chlorophenyl-phe

fluorene

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C.R.S. Ground Water Sample Results

DATE & TIME SAMPLE COLLECTED

8/14/96, 14:30 8/14/96, 15:15/1745 8/14/96, 13:30 8/14/96, 15:30/17:50 8/12/96, 15:30

STATIC LEVEL--WELL BOTTOM

17.7 -- 23.5' 17.7' -- 23.5' 18.15' -- 28.1' N/A

DATA QUALIFIERS

N/A N/A MS/MSD Replicate of MW-1 N/A

n-nitrosodiphenylamine

10 ug/l 100 U 100 U 100 U 100 U

4-bromophenyl phenyl ether

10 ug/l 100 U 100 U 30 U 100 U

hexachlorobenzene

10 ug/l 100 U 100 U 30 U 100 U

pentachlorophenol

25 ug/l 250 U 250 U 75 U 250 U

phenanthrene

10 ug/l 100 U 100 U 37 100 U

anthracene

10 ug/l 100 U 100 U 30 U 100 U

carbazole

10 ug/l 100 U 100 U 30 U 100 U

di-n-butylphthalate

30 J 100 U 100 U 30 U 100 U

fluoranthene

10 ug/l 100 U 100 U 5 J 100 U

C.R.S. Ground Water Sample Results

DATE & TIME SAMPLE COLLECTED

8/14/96, 14:30 8/14/96, 15:15/17:45 8/14/96, 13:30 8/14/96, 15:30/11:50 8/12/96, 15:30

STATIC LEVEL-WELL BOTTOM

17.7° - 23.5° N/A
18.15° - 28.1° 18.15° - 28.1°

DATA QUALIFIERS

N/A
N/A
MS/MSD
Replicate of MW-1

nyrene

butylbenzylphthalate

3,3-dichlorobenzidine

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the first time in the history of the world that the people of the United States have been compelled to pay a tax on their property.

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10.100 U 100 U 100 U 30 U 100 U NA

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NA
100 U
30 U

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C.R.S. Ground Water Sample Results

DATE & TIME SAMPLE COLLECTED

STATIC LEVEL—WELL BOTTOM

DATA QUALIFIERS

8/14/96, 14:30	17.7' - 23.5'	17.7' - 23.5'	18.15' - 28.1'	18.15' - 28.1'	8/14/96, 13:30	8/14/96, 15:30/17:50	8/14/96, 15:30/17:50	N/A	MS/MSD	Replicate of MW-1	N/A
8/14/96, 15:15/17:45	17.7' - 23.5'	17.7' - 23.5'	18.15' - 28.1'	18.15' - 28.1'	8/14/96, 13:30	8/14/96, 15:30/17:50	8/14/96, 15:30/17:50	N/A	MS/MSD	Replicate of MW-1	N/A

C.R.S. Ground Water Sample Results

DATE & TIME SAMPLE COLLECTED

8/14/96, 14:30 8/14/96, 15:15/17:45 8/14/96, 13:30 8/14/96, 15:30/17:50 8/12/96, 15:30

STATIC LEVEL--WELL BOTTOM

17.7' - 23.5' 17.7' - 23.5' 18.15' - 28.1' 18.15' - 28.1'

DATA QUALIFIERS

N/A N/A MS/MSD Replicate of MW-1 N/A

TOTAL METALS/CYANIDE

CRDL 901 311 2250 N/A

200 ug/l	1130	901	2250	N/A
60 ug/l	50.7 B	124	27.5 U	N/A
10 ug/l	76.3	466	97.2	N/A
200 ug/l	230	214	153	N/A
5 ug/l	0.40 U	0.42 B	244	N/A
5 ug/l	8.4	77.3	0.40 U	N/A
5000 ug/l	211000	217000	0.47 B	N/A
10 ug/l	91.7	108	21.4	N/A
50 ug/l	28.0 B	16.1 B	219000	N/A
25 ug/l	7.4 B	63.9	194000	N/A
100 ug/l	42700	28100	3.0 U	N/A
3 ug/l	4.1	105	137	N/A
5000 ug/l	27300	28200	28.3 B	N/A
15 ug/l	853	1300	16.1 B	N/A
0.2 ug/l	0.15 B	0.19 B	14.6 B	N/A
40 ug/l	46.1	66.6	24.4 B	N/A
5000 ug/l	10400	11000	12100	41200
5 ug/l	2.5 B	2.2 B	11.0 U	N/A
10 ug/l	4.2 U	2.2 B	27.1	N/A
5000 ug/l	44600	40200	40100	28600
10 ug/l	2.0 U	2.0 U	2.0 U	2.0 U

C.R.S. Ground Water Sample Results**DATE & TIME SAMPLE COLLECTED**

8/14/96, 14:30 8/14/96, 15:15/17:45 8/14/96, 13:30 8/14/96, 15:30/17:50 8/12/96, 15:30

STATIC LEVEL--WELL BOTTOM

17.7 - 23.5' 17.7 - 23.5' 18.15 - 28.1' 18.15 - 28.1' N/A

DATA QUALIFIERS

N/A N/A MS/MSD Replicate of MW-1 N/A

	50 ug/l	116 B	18.8 B	3.8 U
	20 ug/l	5360	3830	5270
	10 ug/l	49.2	49.7	2.7 B

NOTE 1: For VOCs, SVOCs, Pest./PCBs, D = diluted; E = estimated - exceeds GC's upper calibration limit; J = estimated value; P = lower of two GC columns reported; X = GC could not distinguish peaks; Z = determined to be a false positive; and, N/A = Not Applied

NOTE 2: For metals, B = an estimated value; CRDL = Contract Required Detection Limit.

NOTE 3: (0.0) = Parentheses indicate that value is below both CRQL and SQL/MDL.

NOTE 4: * = Sample was analyzed more than twice and/or diluted by lab.

C.R.S. Surface Water and Sediment Sample Results

VOLATILE ORGANIC COMPOUNDS	CRQL	S. WATER				S. WATER		S. WATER		S. WATER		DIWATER		SEDIMENT		SEDIMENT		
		S. WATER	DIWATER	DIWATER	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT										
chloromethane	10 ug/l	10 U	10 ug/kg	16 U	16 U	18 U	18 U	25 U										
bromomethane	10 ug/l	10 U	10 ug/kg	16 U	16 U	18 U	18 U	25 U										
vinyl chloride	10 ug/l	10 U	65	10 U	10 ug/kg	16 U	16 U	16 U	16 U	18 U	18 U	25 U						
chloroethane	10 ug/l	10 U	4 J	10 U	10 U	10 ug/kg	16 U	16 U	16 U	16 U	18 U	18 U	25 U					
methylene chloride	10 ug/l	10 U	1 J	10 U	10 U	10 U	1 J	10 U	10 U	10 ug/kg	27 BU	18 BU	25 JBU					
carbon disulfide	10 ug/l	10 U	10 ug/kg	48 BU	53 BU	53 BU	53 BU	38 BU	38 BU	170 BU								
1,1-dichloroethene	10 ug/l	10 U	10 ug/kg	16 U	16 U	16 U	16 U	18 U	18 U	25 U								
1,1-dichloroethane	10 ug/l	10 U	110	10 U	10 ug/kg	16 U	16 U	16 U	16 U	18 U	18 U	25 U						
1,2-dichloroethene (total)	10 ug/l	10 U	10 ug/kg	130	10 U	10 ug/kg	16 U	16 U	18 U	18 U	25 U							
chloroform	10 ug/l	10 U	2 J	10 U	10 ug/kg	16 U	16 U	16 U	16 U	18 U	18 U	25 U						
1,2-dichloroethane	10 ug/l	10 U	10 ug/kg	16 U	16 U	16 U	16 U	18 U	18 U	25 U								

C.R.S. Surface Water and Sediment Sample Results

Chemical	Conc. ug/l	10 U	10 ug/kg	4 J	16 U	18 U	18 U	37					
2-butanone	10 ug/l	10 U	10 ug/kg	4 J	16 U	18 U	18 U	25 U					
1,1,1-trichloroethane	10 ug/l	10 U	10 U	10 U	10 U	18	10 U	10 ug/kg	16 U	16 U	18 U	18 U	25 U
carbon tetrachloride	10 ug/l	10 U	10 ug/kg	16 U	16 U	18 U	18 U	25 U					
bromodichloromethane	10 ug/l	10 U	10 ug/kg	16 U	16 U	18 U	18 U	25 U					
1,2-dichloropropane	10 ug/l	10 U	10 ug/kg	16 U	16 U	18 U	18 U	25 U					
cis-1,3-dichloropropene	10 ug/l	10 U	10 ug/kg	16 U	16 U	18 U	18 U	25 U					
trichloroethylene	10 ug/l	10 U	10 U	10 U	10 U	6 J	10 U	10 ug/kg	16 U	16 U	18 U	18 U	25 U
dibromochloromethane	10 ug/l	10 U	10 ug/kg	16 U	16 U	18 U	18 U	25 U					
1,1,2-trichloroethane	10 ug/l	10 U	10 ug/kg	16 U	16 U	18 U	18 U	25 U					
benzene	10 ug/l	2 J	10 U	10 U	10 U	10 U	19	10 U	10 ug/kg	16 U	16 U	18 U	34
trans-1,3-dichloropropene	10 ug/l	10 U	10 ug/kg	16 U	16 U	18 U	18 U	25 U					
2-hexanone	10 ug/l	10 U	10 ug/kg	16 U	16 U	18 U	18 U	25 U					
tetrachloroethylene	10 ug/l	10 U	10 U	10 U	10 U	7 J	10 U	10 ug/kg	16 U	16 U	18 U	18 U	25 U

C.R.S. Surface Water and Sediment Sample Results

C.R.S. Surface Water and Sediment Sample Results

SEMI-VOLATILE ORGANIC COMPO	CRQL							SEDIMENT	SEDIMENT	SEDIMENT
		S. WATER	DI WATER							
phenol	10 ug/l	10 U	N/A	330 ug/kg	510 U	580 U				
bis(2-chloroethyl)ether	10 ug/l	10 U	N/A	330 ug/kg	540 U	580 U				
2-chlorophenol	10 ug/l	10 U	N/A	330 ug/kg	510 U	580 U				
1,3-dichlorobenzene	10 ug/l	10 U	N/A	330 ug/kg	540 U	580 U				
1,4-dichlorobenzene	10 ug/l	10 U	N/A	330 ug/kg	510 U	580 U				
1,2-dichlorobenzene	10 ug/l	10 U	N/A	330 ug/kg	510 U	580 U				
2-methylphenol	10 ug/l	10 U	N/A	330 ug/kg	510 U	580 U				
2,2-oxybis(1-chloropropane)	10 ug/l	10 U	N/A	330 ug/kg	510 U	580 U				
4-methylphenol	10 ug/l	10 U	N/A	330 ug/kg	510 U	580 U				
n-nitroso-di-n-dipropylamine	10 ug/l	10 U	N/A	330 ug/kg	510 U	580 U				
hexachloroethane	10 ug/l	10 U	N/A	330 ug/kg	510 U	580 U				
nitrobenzene	10 ug/l	10 U	N/A	330 ug/kg	510 U	580 U				

| | | 10 ug/l | 10 U | N/A | 330 ug/kg | 510 U | 540 U | 580 U | 820 U |
|----------------------------|--|---------|------|------|------|------|------|------|-----|-----------|-------|-------|-------|-------|
| isophorone | | 10 ug/l | 10 U | N/A | 330 ug/kg | 510 U | 540 U | 580 U | 820 U |
| 2-nitrophenol | | 10 ug/l | 10 U | N/A | 330 ug/kg | 510 U | 540 U | 580 U | 820 U |
| 2,4-dimethylphenol | | 10 ug/l | 10 U | N/A | 330 ug/kg | 510 U | 540 U | 580 U | 820 U |
| bis(2-chloroethoxy)methane | | 10 ug/l | 10 U | N/A | 330 ug/kg | 510 U | 540 U | 580 U | 820 U |
| 2,4-dichlorophenol | | 10 ug/l | 10 U | N/A | 330 ug/kg | 510 U | 540 U | 580 U | 820 U |
| 1,2,4-trichlorobenzene | | 10 ug/l | 10 U | N/A | 330 ug/kg | 510 U | 540 U | 580 U | 820 U |
| naphthalene | | 10 ug/l | 10 U | N/A | 330 ug/kg | 510 U | 540 U | 580 U | 820 U |
| 4-chloroaniline | | 10 ug/l | 10 U | N/A | 330 ug/kg | 510 U | 540 U | 580 U | 820 U |
| hexachlorobutadiene | | 10 ug/l | 10 U | N/A | 330 ug/kg | 510 U | 540 U | 580 U | 820 U |
| 4-chloro-3-methylphenol | | 10 ug/l | 10 U | N/A | 330 ug/kg | 510 U | 540 U | 580 U | 820 U |
| 2-methylnaphthalene | | 10 ug/l | 10 U | N/A | 330 ug/kg | 510 U | 540 U | 580 U | 820 U |
| hexachlorocyclopentadiene | | 10 ug/l | 10 U | N/A | 330 ug/kg | 510 U | 540 U | 580 U | 820 U |
| 2,4,6-trichlorophenol | | 10 ug/l | 10 U | N/A | 330 ug/kg | 510 U | 540 U | 580 U | 820 U |
| 2,4,5-trichlorophenol | | 25 ug/l | 25 U | N/A | 330 ug/kg | 510 U | 540 U | 580 U | 820 U |

Appendix A
Chemical Recovery Systems STEP

C.R.S. Surface Water and Sediment Sample Results

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| Chemical | Conc.
ug/l | 10 U | N/A | 330 ug/kg | 510 U | 540 U | 580 U | 820 U |
|---------------------|---------------|------|------|------|------|------|------|-----|-----------|--------|--------|--------|--------|
| 2-chloronaphthalene | 10 ug/l | 25 U | N/A | 800 ug/kg | 1300 U | 1400 U | 1400 U | 2100 U |
| 2-nitroaniline | 25 ug/l | 10 U | N/A | 330 ug/kg | 510 U | 540 U | 580 U | 820 U |
| dimethylphthalate | 10 ug/l | 10 U | N/A | 330 ug/kg | 510 U | 540 U | 580 U | 820 U |
| acenaphthylene | 10 ug/l | 10 U | N/A | 330 ug/kg | 510 U | 540 U | 580 U | 820 U |
| 2,6-dinitrotoluene | 10 ug/l | 25 U | N/A | 800 ug/kg | 1300 U | 1400 U | 1400 U | 2100 U |
| 3-nitroaniline | 25 ug/l | 10 U | N/A | 330 ug/kg | 510 U | 540 U | 580 U | 820 U |
| acenaphthene | 10 ug/l | 10 U | N/A | 330 ug/kg | 140 J | 78 J | 67 J | 820 U |

C.R.S. Surface Water and Sediment Sample Results

C.R.S. Surface Water and Sediment Sample Results

C.R.S. Surface Water and Sediment Sample Results

PESTICIDES/PCBs	CRQL	S. WATER				S. WATER	S. WATER	S. WATER	S. WATER	DI WATER	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
		S. WATER	S. WATER	S. WATER	S. WATER	DI WATER								
alpha-BHC	0.05 ug/l	0.050 U	N/A	N/A	N/A	1.7 ug/kg	2.6 U	2.8 U	3.0 U	4.2 U				
beta-BHC	0.05 ug/l	0.050 U	1.7 ug/kg	2.6 U	2.8 U	3.0 U	4.2 U							
gamma-BHC (Lindane)	0.05 ug/l	0.050 U	1.7 ug/kg	6.3 P	2.8 U	3.0 U	4.2 U							
aldrin	0.05 ug/l	0.050 U	1.7 ug/kg	2.6 U	2.8 U	3.0 U	4.2 U							
4,4-DDE	0.10 ug/l	0.10 U	3.3 ug/kg	1.0 JP	1.1 JP	0.62 JP	8.2 U							
endrin	0.10 ug/l	0.10 U	N/A	3.3 ug/kg	5.2 U	5.4 U	5.8 U							
endosulfan II	0.10 ug/l	0.10 U	N/A	3.3 ug/kg	5.2 U	5.4 U	5.8 U							
4,4-DDD	0.10 ug/l	0.10 U	N/A	0.0044 JP	N/A	2.7 JP	5.4 JPU							
endosulfan sulfate	0.10 ug/l	0.10 U	3.3 ug/kg	3.3 ug/kg	2.7 JP	5.4 JPU	0.89 JP							
4,4-DDT	0.10 ug/l	0.10 U	N/A	3.3 ug/kg	5.2 U	5.4 U	5.8 U							

methoxychlor	0.50 ug/l	0.050 U					
endrin ketone	0.10 ug/l	0.10 U	N/A	N/A	N/A	N/A	N/A
endrin aldehyde	0.10 ug/l	0.10 U	N/A	N/A	N/A	N/A	N/A
alpha-chlordane	0.05 ug/l	0.050 U	N/A	N/A	N/A	N/A	N/A
gamma-chlordane	0.05 ug/l	0.050 U	N/A	N/A	N/A	N/A	N/A
toxaphene	5.0 ug/l	5.0 U	N/A	N/A	N/A	N/A	N/A
aroclor-1013	1.0 ug/l	1.0 U	N/A	N/A	N/A	N/A	N/A
aroclor-1221	1.0 ug/l	2.0 U	N/A	N/A	N/A	N/A	N/A
aroclor-1232	2.0 ug/l	1.0 U	N/A	N/A	N/A	N/A	N/A
aroclor-1242	1.0 ug/l	1.0 U	N/A	N/A	N/A	N/A	N/A
aroclor-1248	1.0 ug/l	1.0 U	N/A	N/A	N/A	N/A	N/A
aroclor-1254	1.0 ug/l	1.0 U	N/A	N/A	N/A	N/A	N/A
aroclor-1260	1.0 ug/l	1.0 U	N/A	N/A	N/A	N/A	N/A

C.R.S. Surface Water and Sediment Sample Results

TAL METALS/CYANIDE	CRDL	S. WATER						S. WATER	S. WATER	S. WATER	DI WATER	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
		S. WATER														
aluminum	200 ug/l	209	139 B	232	141 B	492	N/A	40 mg/kg	4130	2570	5550	14100				
antimony	60 ug/l	15.7 U	157 U	15.7 U	15.7 U	107	N/A	12 mg/kg	670	1110 B	650	850				
arsenic	10 ug/l	4.0 B	3.8 B	3.8 B	4.0 B	8.2 B	N/A	2 mg/kg	5	3.7	6.1	10.9				
barium	200 ug/l	43.5 B	51.9 B	46.3 B	51.8 B	159 B	N/A	40 mg/kg	617 B	299 B	129	146				
beryllium	5 ug/l	0.40 U	0.40 U	0.40 U	0.40 U	0.43 B	N/A	1 mg/kg	0.40 B	0.19 B	0.37 B	0.64 B				
cadmium	5 ug/l	2.4 U	2.4 U	2.4 U	2.4 U	26.2	N/A	1 mg/kg	2.1	2.1	2.9	4.2				
calcium	5000 ug/l	70200	72600	73700	72500	176000	N/A	1000 mg/kg	5920	4960	8600	12300				
chromium	10 ug/l	2.1 U	2.1 U	2.1 U	3.1 B	48.6	N/A	2 mg/kg	12.8	10.8	29.7	34.8				
cobalt	50 ug/l	3.6 U	3.6 U	3.6 U	3.6 U	9.0 B	N/A	10 mg/kg	8.1 B	7.7 B	10.4 B	18.0 B				
copper	25 ug/l	9.4 B	10.5 B	11.0 B	8.7 B	709	N/A	5 mg/kg	48.4	53.7	70.1	99.5				
iron	100 ug/l	343	234	481	239	2490	N/A	20 mg/kg	10000	7830	12300	24200				
lead	3 ug/l	1.3 B	1.3 B	0.90 U	1.6 B	0.90 U	10.4	N/A	30.9	46.2	29.1	53.1				

magnesium	5000 ug/l	21700	22400	22600	22300	29200	N/A	1000 mg/kg	2010 B	1580 B	2840	5280								
manganese	15 ug/l	94.5	55.3	140	56.1	464	N/A	3 mg/kg	133	131	220	487								
mercury	0.2 ug/l	0.10 U	N/A	0.1 mg/kg	0.07 U	0.06 U	0.08 U	0.43												
nickel	40 ug/l	9.2 B	9.2 B	14.7 B	9.0 U	111	N/A	8 mg/kg	30.9	19	38.2	51.4								
potassium	5000 ug/l	5670	6030	6110	6050	10300	N/A	1000 mg/kg	822 B	488 B	976 B	2340 B								
seleium	5 ug/l	0.60 U	0.60 U	0.60 U	0.60 U	15.8	N/A	1 mg/kg	0.51 B	0.21 U	0.62 B	0.92 B								
silver	10 ug/l	2.1 U	N/A	2 mg/kg	0.89 U	0.72 U	0.86 U	1.1 U												
sodium	5000 ug/l	50100	51100	50900	50400	445000	N/A	1000 mg/kg	123 B	69.7 B	124 B	261 B								
thallium	10 ug/l	2.4 B	1.5 B	2.3 B	2.9 B	3.1 B	N/A	2 mg/kg	0.85 B	0.34 B	0.16 U	0.38 B								
vanadium	50 ug/l	2.1 B	1.8 B	2.1 B	1.5 B	2.6 B	N/A	10 mg/kg	9.9 B	6.4 B	12.1 B	29.1								
zinc	20 ug/l	8.5 B	8.5 B	10.6 B	6.9 B	121	N/A	4 mg/kg	76.6	49.3	123	198								
cyanide	10 ug/l	0.50 U	N/A	0.2 mg/kg	0.11 U	0.09 U	0.10 U	0.13 U												

NOTE 1: For VOCs, SVOCs, Pest./PCBs, D = diluted; E = estimated - exceeds GC's upper calibration limit; J = estimated value; P = lower of two GC columns reported;

U = below detection limit; $X = GC$ could not distinguish peaks; and, CRQL = Contract Required Quantification Limit.

C.R.S. Surface Water and Sediment Sample Results

NOTE 2: For metals, B = an estimated value; CRDL = Contract Required Detection Limit.

NOTE 3: (0,0) = Parentheses indicate that value is below both CRQL and SQL/MPL.

NOTE 1: * = Sample was analyzed more than twice and/or diluted by 1/ab

C.R.S. Surface Water and Sediment Sample Results

APPENDIX B

SENSITIVE ENVIRONMENTS MAP (15-MILE TDL)

DAVID C. LONG CO., L.P.A.
ATTORNEY AT LAW
P. O. BOX 427
EXECUTIVE BUILDING - 300 FOURTH STREET
ELYRIA, OHIO 44036

TELEPHONE
323-3331
AREA CODE 216

September 21, 1982

Kathleen Ann Sutula, Esq.
Assistant U. S. Attorney
United States Department of Justice
1404 E. Ninth St.
Suite 500
Cleveland, Ohio 44004

Re: United States of America vs.
Chemical Recovery Systems, Inc., et al.

Dear Ms. Sutula:

Please accept my apologies for taking so long in responding to you since our discussion; a number of unforeseen delays occurred.

By way of settlement, Chemical Recovery Systems proposes the following:

- (1) CRS is willing to grade the entire site sloping same gently toward the river and seed the surface with grass in conformance with the attached suggestions by KECK Consulting Services, Inc.
- (2) In the area of the "Brighton Still" CRS will remove the top foot of soil around the perimeter of the building foundation to a distance of two feet from the foundation, dispose of the removed soil in an approved waste disposal site and either grade or backfill the area to conform with the terrain.
- (3) CRS will not agree to sealing the existing sewer drain pipe on the premises due to the fact that the interior of same has been photographed by the City and appears to be sound. With the permission of the City of Elyria, these photographs will be produced. I have placed the City of Elyria on notice, by way of a letter to the City Solicitor, that if the matter of the sewer becomes an issue then I will have no choice but to join the City as a Party Defendant.

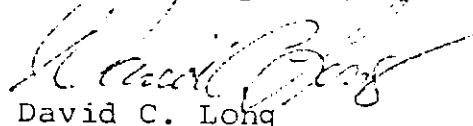
Kathleen Ann Sutula, Esq.
United States of America vs.
Chemical Recovery Systems, Inc., et al.
September 21, 1982
Page 2

- (4) CRS will not drill and monitor "Piezometer holes" on the property as requested by the EPA. Upon reviewing this request with its consulting engineering firm, using the limited information available, CRS is informed that, depending upon the objectives to be accomplished, either the borings already made by the EPA on the premises will be sufficient, or "Piezometer holes" off the premises would be required, which of course CRS cannot agree to. Perhaps some further clarification is necessary.

After you have discussed this proposal with EPA, please let me know whether or not you think settlement is possible.

Thanking you for your ongoing cooperation and consideration,
I am

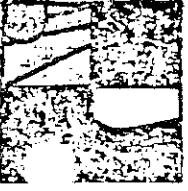
Very truly yours,



David C. Long

DCL:cas

cc: Mr. James C. Freeman
Mr. Peter Shagena
Mr. Joseph Heimbuch
Gary McInerney, Esq.
Richard Stevens, Esq.



KECK consulting services, inc.

1099 W. GRAND RIVER • WILLIAMSTON, MI 48895 • (517) 655-4391

July 23, 1982

Mr. Peter Shagena
Chemical Recovery Systems, Inc.
36345 Van Born Road
Romulus, Michigan 48174

Dear Pete:

Enclosed is the write-up you requested regarding the vegetative cover at your Ohio site. I hope it meets your requirements.

Let us know if we can be of further assistance.

Very truly yours,

KECK CONSULTING SERVICES, INC.

Joe

Joseph W. Sheahan
Hydrogeologist/Project Manager

JWS/dpg
Encl.

Chemical Recovery

RECYCLING

The final covering of waste disposal areas is frequently accomplished by grading and seeding. These measures are taken to minimize soil erosion, promote effective removal of precipitation and encourage rejuvenation of the area to a natural and aesthetically appealing state.

The selection of a proper plant cover must take into account all of these requirements. It must first possess resistance to the environmental characteristics of the area and be able to survive on the available precipitation without supplemental water application. Secondly it must possess an extensive yet shallow root structure that will bind together the soil and reduce infiltration without penetrating the waste disposal area. As a final requirement, it must be easily maintained and be aesthetically compatible with the surrounding landscape and environment.

Several common grasses will fulfill these requirements in most areas. Commonly fescue grasses (genus Festuca) provide a suitable cover. The variety selected might also take into account the height that is desired upon full growth. Also suitable might be one of the several bluegrasses (genus Poa) including the well known Kentucky bluegrass (Poa pratensis). Any of the numerous bromegrasses (genus Bromus) could prove satisfactory.

Final selection of a suitable cover can best be accomplished by a horticulturist familiar with the precipitation and soil characteristics of the site following construction of the cap.